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ABSTRACT

An overview of current educational issues is offered as a background for an analysis of the status of educational research, guidelines for future research, and a general assessment of the National Institute of Education (NIE). Also included are discussions of the National Council on Educational Research's activities and NIE's study of its appropriate role in instructional program improvement. (MV)

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Educational Research: Limits and Opportunities

Third Annual Report of The National Council on Educational Research

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NATIONAL INSTITUTE OF EDUCATION

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The National Institute of Education

EDUCATIONAL RESEARCH: LIMITS AND OPPORTUNITIES

Third Annual Report
of
The National Council on Educational Research

March 31, 1977

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FOREWORD AND HIGHLIGHTS

Congress established the National Institute of Education (NIE) under the Education Amendments of 1972 to be the primary Federal agency for educational research. The act also established the National Council on Educational Research to provide policy guidance and oversight for NIE. The act calls for a 15-member Council to be appointed by the President and confirmed by the Senate. NIE's legislation requires that Council membership be broadly representative of the educational community and the general public.

As an independent lay board, the Council lends a non-Federal perspective to Federal policy on educational research. In working over the last 3 years to build a broad policy framework for NIE, the Council has established the following basic priority areas as a focus for NIE's efforts to improve the practice of education—basic skills, education equity, education and work, finance and productivity, school capacity for problem solving, and dissemination. NIE concentrates its programs and projects in these six areas, which were written into the reauthorization legislation in 1976.

Congress also mandates that the Council make an annual report to the President and Congress on American education, educational research, and NIE. The two previous annual reports have concentrated on reviewing NIE activities. However, the Council has adopted a new approach for this annual report and for subsequent ones. Each year, the annual report will feature an in-depth analysis of a topic of major importance. The topic for fiscal year 1976 is NIE's role in curriculum development. The 1977 report will focus on fundamental research in education.

Highlights of the Third Annual Report

1. Current Educational Issues

- The mobility of the American people, the impact of Federal policy, and the development of national education organizations have given rise to a national perspective in education.
- Education is only one of many institutions responsible for solving social problems.
- Americans in polls and publications have identified the major problems of education as discipline, desegregation, and finance.

2. Status of Educational Research

- Generally, America's investment in educational research is small—one half of one percent of the total national investment in education.
- Remarkably little is known about the magnitude, the character, or the complexity of educational research in America.
- As a research field, education remains relatively immature in terms of sophistication, personnel, knowledge base, and dissemination mechanisms.
- System building and improvement of the workforce are major needs in educational research.
- Since educational research cannot do everything desired by its constituencies, it should carefully hone its priorities.

3. Guidelines for Future Research

- Educational research should be developed as a whole rather than as a sum of its components.
- The slowness and complexity of social change must be taken into account when seeking solutions to educational problems through research.
- A nationwide educational research network should promote cooperative activities, information sharing, and collaborative decisionmaking on national educational policies.
- Better ways must be devised to identify the needs of the educational system and to establish research priorities.
- The utility of educational research can be increased through efforts to keep beneficiaries well informed about research results.

- Improved management and coordination of educational research is needed across Federal, State, and local jurisdictions.
- Parents, students, and teachers require better performance-oriented data to help them assess the relative merits of different schools, colleges, programs, and materials.
- Improved knowledge synthesis is needed to meet the differential information needs of education consumers, decisionmakers, administrators, teachers, and researchers.
- Training programs for educational researchers should include a broader discipline base and increased participation by women and minorities.
- Models of excellence in education and educational research should be identified, recognized, publicized, and rewarded.

4. Assessment of NIE

- NIE's programs generally respond to concerns expressed by Americans about educational governance, finance, discipline, accountability, desegregation, and curriculum.
- NIE requires organizational continuity and stability in order to provide needed national leadership and coordination of educational research.
- NIE needs a sound balance among basic research, applied research, development, and dissemination.
- NIE should concentrate on identifying, analyzing, and synthesizing knowledge resulting from education research projects funded by other sponsors.

5. Council Activities

- The Council has streamlined its policymaking machinery and has started to focus on selected priority issues.
- Council priority issues include fundamental research in education, NIE's procurement policies, field involvement in policy setting, and long-range Institute planning.

6. Curriculum Policy Development

- Under NCER guidance, NIE conducted a 14-month study of its appropriate role in instructional program improvements.
- The study included reviews of related literature, a national conference, public regional meetings, commissioned papers, and discussions with professional and lay organizations.
- The study found a wide diversity of opinion on the appropriate Federal role in instructional program improvement.
- NIE identified four major policy options from which the Council and the Director developed NIE's policy for instructional program improvement.
- NCER's policy states that "the primary purpose of NIE's involvement in instructional program improvement shall be to contribute to the equalization of educational opportunity in America."

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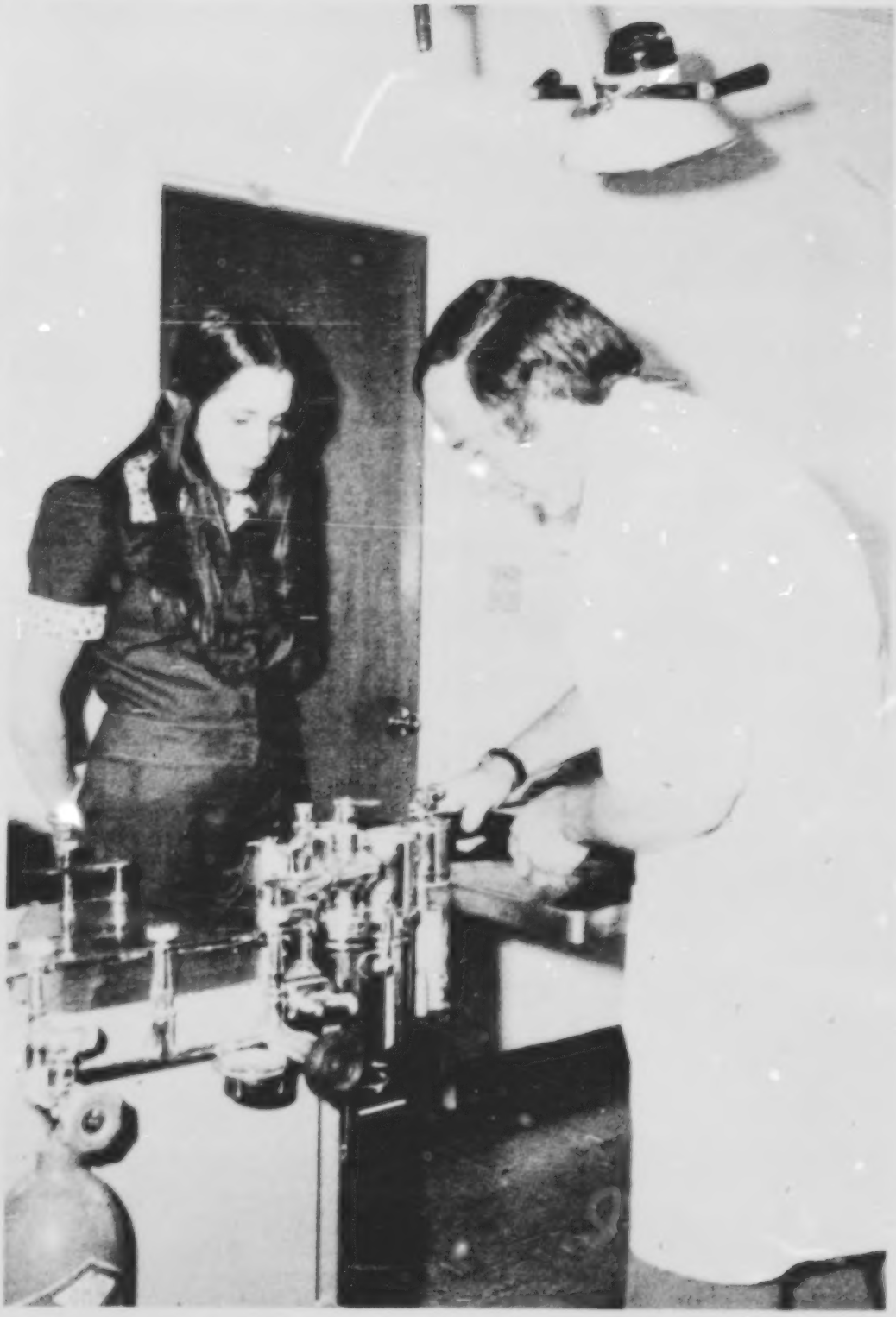
Chapter 1:

Faith in the Old Dream



In sending this report to a new Congress and a new President, the Council wishes to echo the sentiment of President Carter in his inaugural address: "I have no new dreams. . . . I rather urge faith in the old dream." The Council feels the old dream, the enduring dream, in education is to develop within every person the competencies, skills, and understandings necessary to function effectively in the modern world, to find and pursue satisfying work, and to lead satisfying lives.

The old dream in education has many dimensions. It emphasizes the need to transmit culture and values from one generation to the next. It stresses the socialization of young people to the best of American society. The old dream seeks the advancement of knowledge through research and advanced training. It calls for better understanding of humanity and cultures throughout the world. And the old dream looks to education as one, but only one, of many institutions which are supposed to resolve the social problems that thwart the realization of the dream.

American education has some common national dimensions that reflect ideals which underlie another ancient dream—that of a fully democratic society. These common democratic dimensions include broad educational access and the effort to provide an equal education for all, focus on the individual in the classroom, recognition of learning as a lifelong process, and participation by all in the decisionmaking process. Although education itself takes place in specific localities, these common dimensions are national in scope rather than State or local. These dimensions have been embedded in American education throughout its history. But it has taken 200 years for them to emerge and to be recognized as national concerns. Just as the great goals of the American people have not yet been entirely achieved, so too is the old dream in education still in the process of being realized.

Educational research is one of the tools needed to realize the dream. As used in this report, educational research means basic and applied research, development, and dissemination. In reporting on educational research, the Council emphasizes two major themes: One is the need to recognize the limitations of education, social science, educational research, the National Institute of Education, and the Council itself. The second theme is the desirability of establishing priorities which take into account both the limitations and the potentialities. There are many opportunities for creative solutions to educational problems in an educational enterprise with national dimensions. But the solutions will not come quickly or easily. They will come, in President Carter's words, not from new programs but from a "new spirit" of determination to preserve and build on what is best in American education.

As education has achieved national recognition of its importance, many previously hidden problems have been uncovered. Segregation, discrimination, inadequate literacy, discipline, finance, and others are not new problems. They have always been part of education and of the larger society. Education's opportunity to realize the old dream lies in the fact that these problems are now recognized and discussed. Although many children from urban ghettos and from rural hollows have long been deprived educationally, it is only since their deprivation has come to be perceived as a problem that solutions have been sought.

Therefore, the recognition of educational problems from a national perspective is actually a hopeful sign. We are beginning to see how far we have come educationally and how far we have to go. But, considering the fact that most educational research has occurred only during the past two decades, it is unrealistic to expect so short an effort to have resolved age-old school problems, much less larger social problems such as poverty, deprivation, ill health, and emotional disturbance. While education has a responsibility to deal with the classroom effects of these larger social problems, education cannot shoulder the burden alone.

The current recognition of educational problems comes at a time when the nation also is keenly aware of the finiteness of its resources for dealing with numerous problems from poverty to energy shortages. In addition to economic constraints, America has become conscious of the limits of science and technology for solving social ills. As yet, the knowledge base is insufficient for accurately identifying and alleviating all the root causes of complex human problems.

Humanity has always sought to understand itself and its relation to the natural world. The great religions and philosophies of antiquity grappled with many of the same issues that concern modern social scientists: What is the

nature of humanity? Why do people act as they do? While such questions are timeless, systematic inquiries through large-scale social science efforts are fairly recent. Moreover, the social sciences struggle with complexities and ambiguities which do not prevail in the physical, chemical, biological, and earth sciences. Educational research is a mere child when compared to the more mature disciplines that have had centuries of growth. Hence, educational research has not yet produced a knowledge base or a technology that can promise a breakthrough equivalent to a moonshot or polio vaccine.

This immature state of the art and science points up the need for continued support of educational research. There are many worthwhile advances short of massive breakthroughs. Because knowledge building is inherently incremental, the effort must persist. Decades may be required to reveal the true results of educational research.

Our second theme in this report is the need to establish priorities. Given the limited resources available for educational research, the Council maintains that research priorities should be judged on the basis of two major criteria: (1)—Which educational problems are most pressing, and (2)—Which educational problems are most amenable to research. But even among those problems deemed important and researchable, educational research cannot tackle all of them. Therefore the Council must work with NIE and the entire education community in making difficult choices among competing priorities.

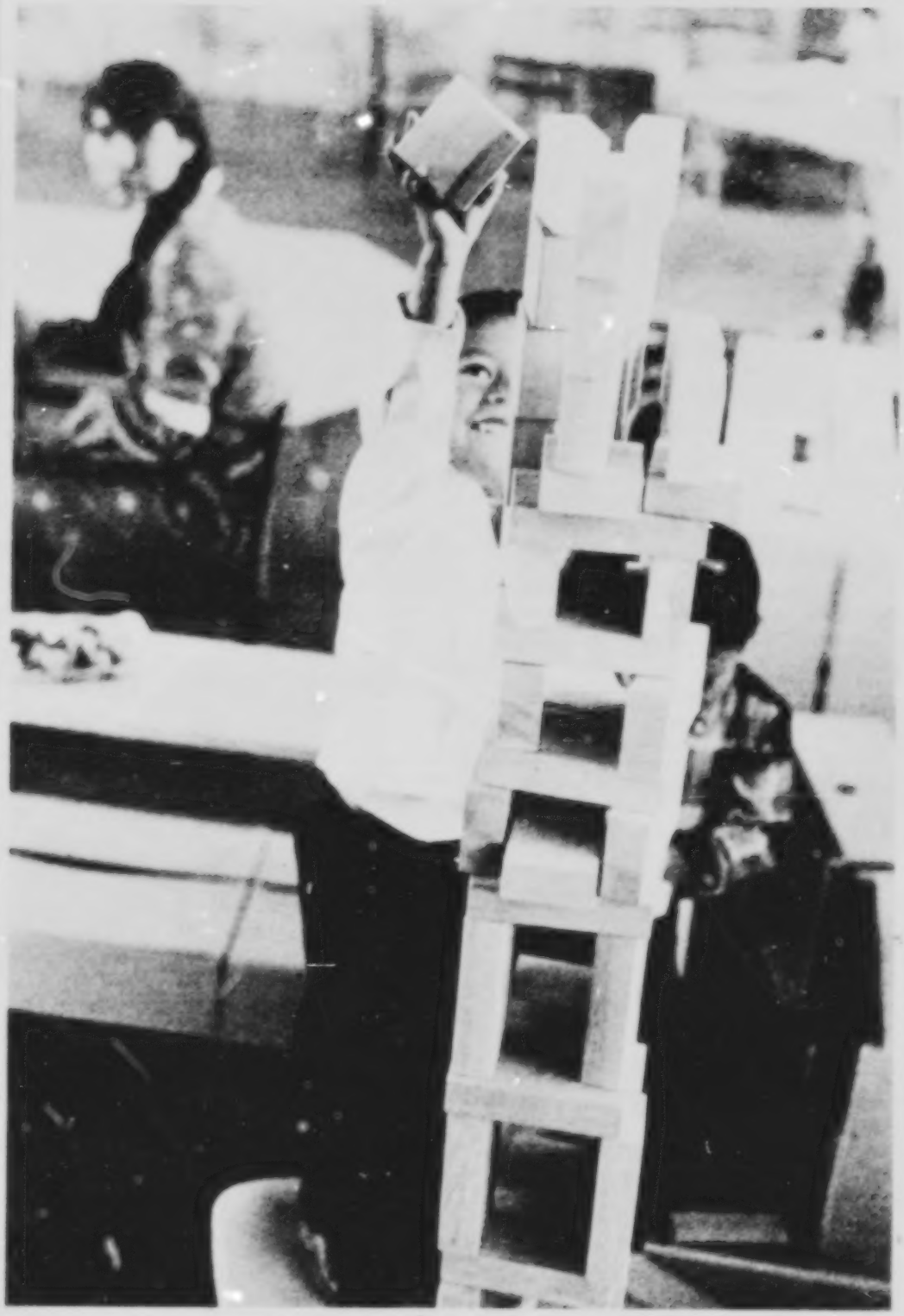
Under Council guidance, NIE has established its programs under six broad priority areas. Within each program area, the Institute further limited and clarified its major thrusts. For example, within the Basic Skills Program Group, NIE is focusing on the problems of competency in reading, writing, and arithmetic. The Council likewise wishes to avoid the pitfall of taking on so many projects that it finds itself doing none of them well. Therefore, the Council has begun a careful reshaping of its own agenda into a more manageable form.

A major Council project during 1976 has been the extensive study of curriculum and alternative policies for guiding curriculum research. Chapter 3 of this report presents an analysis of the Task Force findings and policy adopted by the Council. During 1977 the Council will be focusing much of its attention on the health of fundamental research in education, which will be the feature chapter of next year's Fourth Annual Report.

This year's report reviews activities that occurred during the year of America's bicentennial. The views of the American public toward education discussed in this report show that the old dream is still prevalent as this nation enters its third century. When Americans are asked what concerns them about the educational system, they say they want their tax dollars to purchase a quality education for their children. They want school environments that encourage people to learn, and they want the segregation issue resolved. They want their children to achieve the competency in the basic skills needed for living and working. On the whole, the desires they express describe rather closely the enduring vision of education previously discussed in this chapter. The Council takes seriously the challenge of helping the American people realize this vision.

Chapter 2:

Education from a National Perspective



Increasingly, Americans regard education from a perspective broader than local and State jurisdictions. The concerns about education in Albuquerque, New Mexico, are similar to those in Atlanta, Georgia. There are still State and local variations, but the educational dialogue in one community has common concerns with another community half a continent away. The growing national orientation in education should constantly expand the horizons of students beyond the confines of the communities or States in which they live. As the national perspective sharpens, all levels of government should become partners rather than competitors for dominance. A large, divergent society needs some mechanism to foster a holistic approach to education—a national network that promotes the exchange of ideas. Federal educational research policy should recognize this national orientation in American education and encourage the desired partnership.

The mobility of the American people gives education much of its national orientation. As Americans move from community to community to change jobs or careers, they carry fresh ideas with them that can enrich schools in the new community. Also, the children of a mobile society need some continuity in their educational experiences as well as exposure to skills useful in adjusting to the new circumstances. Through a host of education laws, the Federal Government has sought to provide services that State and local education agencies could not adequately provide. Since the function of the Federal Government is not to make separate policies for 50 States and 16,000 school districts, its policies have enhanced the movement toward a national orientation. Furthermore, since the Federal Government underwrites more than 80 percent of educational research, its efforts are bound to reinforce a national viewpoint.

The rise of educational organizations also has helped move education toward a national orientation. Beyond primary school, it is hard to think of an educational interest or group that does not have a national organization of some kind. In high school, vocational youth groups such as the Future Farmers of America have national affiliations. Principals, superintendents, board members, trustees, teachers, counselors, chief State school officers, private educators, researchers, and parents all have opportunities to join national groups. Each group provides newsletters, magazines, conventions, and other forms of information exchange that tend to reinforce a national rather than a purely State or local view of education.

"It is clear to me that education is a national concern," Senator Richard S. Schweiker recently wrote in the *Journal of Teacher Education* (Winter 1976). "Our form of government depends on an informed, educated electorate, interested in providing all of our children with a quality education."

Although education is a national concern, the "delivery system" will remain decentralized in local districts, schools, and classrooms. However, each school and teacher can borrow ideas and practices from other parts of the country. Since most local educational problems are common ones, it makes sense to concentrate the search for solutions in one place, at the national level. This is the role NIE was created to play—to address tough educational questions that have nationwide relevance.

Although the major characteristics of this national perspective have been implicit throughout the nation's history, over the past 25 years they have become more distinct and recognizable. These characteristics represent the old dream for education and society. They are manifestations of the basic democratic ideals on which this country was founded. They stress equality, respect for the individual, and the idea that all people should help make the decisions that affect them. The following current trends illustrate characteristics of the national perspective:

1. Widening Access. The predominant characteristic of American education has been a commitment to equal educational opportunity for all. "It is my hope that within the next 25 years we will see the fruition of equal educational opportunity for all," wrote Chairman Carl D. Perkins of the House Education and Labor Committee, in the *Journal of Teacher Education* (Winter 1976). Widening access to all levels of education has been fostered by the courts, by the national and State legislatures, and by the people who previously had been excluded from the full benefits of education and society. Almost every indicator shows increasing participation by Americans in all levels of education. Nearly everyone attends elementary and secondary schools. Participation in higher education in-

National Council Meeting in Washington, D.C.—seated left to right: Charles A. Nelson, Jewel Lafontant, John E. Corbally, Harold B. Hodgkinson; standing, left to right: Carl B. Pforzheimer Jr., Chesterfield Finn, Jr., Wilson C. Riles, Virginia S. Trotter, Larry A. Karlson, Arthur M. Lee, Edward Aguirre, and Robert G. Bexer.

2. Focus on the Individual. As more people take part in all phases of the education process, educational institutions increasingly are focusing their attention on the individual rather than the group. Evidence of this focus is seen in the increasing use of open classrooms, more individualized instruction, individually guided education, more alternative modes of teaching and learning, and efforts to tailor the education experience to the needs of the individual. These techniques help individuals learn at their own pace and in their own way.

3. Lifelong Learning. While still a Senator, Vice President Walter F. Mondale stated in Change Magazine (February 1970): "We cannot expect education completed at age 18 or 21 to be adequate at age 30. This lag, coupled with the entrance of women in the work force in greater numbers, underscores the need for extensive retraining and conversion facilities to make them allegro to the needs of adult Americans. Those needs include training and retraining for a changing workplace and opportunities for self enrichment. The recognition of learning as a lifelong process is closely related to education's interest in the individual. We have an opportunity to expand lifelong learning opportunities because classrooms are beginning to stand empty due to declining enrollments of 17- to 21-year olds at the same time that more older adult Americans want to continue their learning. This opportunity is underscored by the fact that the American population is getting older as a result of the declining birth rate and increased life expectancy. The median age is now over 29 and rising.

4. Education and Work. During the election campaign of 1976, President Carter called for expanded vocational and career education opportunities. He noted that by 1990, 80 percent of all jobs were expected to require education beyond high school but less than a 4-year degree. Many Americans expect education to improve their standing in the workplace, both through general education in the basic skills and through training and retraining related directly to jobs and careers. Many people could benefit from programs which help them advance within their present career track or switch to another line of work.

5. Broad Participation. As greater hopes were pinned on education and more people were affected by the educational process, more people sought to become actors in the decision-making process. Educational policy no longer

is the preserve of administrators and board members. Teacher unions, parent organizations, student groups, courts, and legislatures now vie with board members, trustees, and administrators for power. This desire to participate in decisionmaking is inherent in the American tradition, and is not confined to education.

Current Concerns About Education

When asked to list their major concerns about education, Americans responding in eight consecutive Gallup surveys consistently emphasized discipline, desegregation, and school finance. These concerns have become serious enough to produce sharp fluctuations in public confidence in the educational system. The National Opinion Research Center found that the number of Americans having a great deal of confidence in education climbed from 36.8 percent in 1973 to 49 percent in 1974 and then skidded back to 30.9 percent in 1975 (Golladay, 1976). The 1976 Gallup survey of education found that only 13 percent of the respondents gave the schools an A rating, down from 18 percent in 1974. Nearly half gave the schools a rating of C or less and 6 percent said the schools were failing. What conclusions can we draw from these limited statistics? Do the American people perceive widespread mediocrity in the schools? Or have their expectations been raised so high that disappointment is inevitable? Are people venting on the schools their feelings of general frustration with the processes of government and social change? Or are they indicating that they want their children to learn more, faster, and better?

In trying to assess the condition of American education in 1976, the Council commissioned a panel of nine knowledgeable Americans to write about education from their differing perspectives. The essayists generally agreed with popularly expressed views about the major concerns of education. Here is a sample of their opinions:

"In summary, the present status of public education is one of alienation and disaffection."—Vincent E. Reed, Superintendent of Schools, Washington, D.C.

Evidence of declining confidence in other communities is epitomized in reports of grand juries which have been investigating the schools."—B. Frank Brown, Director, Information and Services Program, Institute for Development of Educational Activities, Inc.

A more optimistic view was offered by Bettye M. Caldwell, Professor of Education, University of Arkansas: "Any flaws that might be present in the system merely represent the sort of irritants that lead to activity and help us avoid stagnation and complacency."

J. Myron Atkin, Dean, College of Education, University of Illinois, agreed: "Generally speaking, American people approve of their schools."

"The American education system is operating in a morass of uncertainty and contradictions."—Joseph Sparacio, Vice President, Board of Education, Hazlewood School District, Florissant, Missouri.

Gus Tyler, Assistant President, International Ladies' Garment Workers' Union, reflected: "In large areas of the country educational standards were discarded," producing a decline in quality and basic skills in all levels of education.

Americans who seek a private school alternative to public education want "responsiveness to parents and individual attention for children," wrote John Harkins, Headmaster, Germantown Friends School, Philadelphia, Pennsylvania.

John U. Monro, Director of Freshman Studies, Miles College, Birmingham, Alabama, urged the Federal Government to enforce the law to "make desegregation work" in the nation's schools and colleges.

And Bernard Gifford, Deputy Chancellor of the New York City Board of Education, asserted, "From my point of view, myopic as it may seem, the single most compelling issue facing American education is whether we can find an equitable method of financing our nation's urban school systems."

This selection of opinion does not, of course, represent the whole viewpoint of the essayists. But it reinforces the notion that the status of American education is less than satisfactory. What follows is a discussion of some particular concerns.

1. Behavioral Issues in the Schools. The problem of discipline in the schools has led the list of public concerns in eight Gallup surveys. About 23 percent of the respondents listed discipline as the top problem for the past 3 years. In another survey, teachers reporting personal attacks or property thefts increased from 8.5

percent in 1973 to 12.9 percent in 1975. In 1975, 26 percent of the teachers listed student violence as a problem in their schools (Golladay, 1976).

Violence and other forms of inappropriate behavior in the schools are only one manifestation of a larger problem. It includes the difficulties teachers have in dealing with a range of behaviors. A number of students have a basic negative attitude toward school and learning that results in dysfunctional behaviors. These effects may not be as troublesome on the surface as overt violence, but they do hamper learning and impair the classroom atmosphere. The depth of the problem is difficult to plumb because it is much harder to measure passivity or boredom than to record instances of physical attack, property loss, days absent, or number of dropouts.

2. Disaffected Adolescents. The "national problem of teenage criminality . . . [is] . . . the most critical social problem our country has faced since the Great Depression or World War II," John Monro wrote in his essay for the Council. He was referring to out-of-work and out-of-school youth, many of whom roam the streets and terrorize people. The number of high school graduates as a percentage of the 17 year-old population increased steadily from 1869-70 to 1963-64. Since then it has leveled off around 75 percent (Golladay, 1976). Adolescence is a difficult time emotionally. If youth also have a perception that doing well in school will not necessarily result in a good job, they may well choose to vent their frustration in violence, apathy, or dropping out.

The problems of adolescence are related to both the issue of equal educational opportunity and the issue of education and work. For 18- and 19-year olds, the dropout rate is around 28 percent for black males and 23 percent for black females compared to about 14 percent for white males and 15 percent for white females. It reaches 35 percent for males of Spanish origin (Golladay, 1976). In addition, teenage unemployment rates remain high. President Carter has urged education to respond to the needs of "750,000 untrained young [who] enter the unemployment pool annually."

3. Educational Achievement. Low and declining test scores have fueled public concern about educational achievement. Concern for the quality of the curriculum rose from ninth to fourth place among respondents to the Gallup survey between 1974 and 1976. In addition, 51 percent said more attention to teaching basic skills was most important in improving the quality of public school education overall. In the area of consumer mathematics, for example, the National Assessment of Educational Progress found that only 16 percent of the adults tested could correctly complete an exercise in balancing a checkbook. Only 31 percent of the young college graduates with checking accounts were able to complete the checkbook balancing exercise correctly (Reys, 1976).

No definitive theory has emerged to explain the decline in test scores. Participants at an NIE conference on test scores said some scores were declining, some were rising, and some were staying the same (Silver, 1976). However, the public perception is that education is undergoing a general decline in quality. Whatever the accuracy of that perception, a number of studies have shown that millions of American adults lack the basic abilities needed to perform competently in modern society.

1. School Finance. Americans have consistently made problems of school finance their number three concern in Gallup surveys. Finance was also the topic most frequently discussed by Council essayists. They expressed concerns about the mounting cost of education, about the inequitable distribution of public support among school districts, and about increasing public rejection of school bond issues. Brown noted that an "increasing number of school districts are failing to vote necessary funds to operate the schools." Eagle Point, Oregon, defeated seven levies and had to close its schools for 2 months in 1976, for example.

Reed pointed out that legislatures are concerned with rising costs. He declared, ". . . the public schools must insure sound management of resources, and must demonstrate that sound management to a community which feels hard pressed to pay the costs of society."

5. The Demand for Quality Education. Despite our lasting hope that education can give every child a chance to reap the full benefits of American society, this elusive goal has not been achieved. But the public is demanding at least a minimum standard of educational quality in some States. The New Jersey Supreme Court in *Robinson v. Cahill* has affirmed that all children in the State have a con-

stitutional right to a "thorough and efficient education." The court ordered educators to make sure that all students were provided with the basic requirements for citizenship and adult participation. In Oregon, the State Board of Education has mandated that new education requirements be based on "life skills" competencies in personal, social, and career areas. Other States have adopted similar policies.

This push for quality creates a tension between people's demand for the best obtainable education for their own children and the strong drive for equal treatment of all children. Identical treatment is unlikely to produce true quality education inasmuch as each child has different needs and abilities. Take children from different linguistic and cultural backgrounds, for example. All of these children need sufficient education in the dominant language in order to function in national and community life. But this goal should be achieved while respecting the cultural background of the child. In addition, all children need to be introduced to other languages and cultures to increase their understanding and appreciation of what it means to live in a pluralistic world. Quality, equality, and equity in education have not been defined to the satisfaction of everyone. This lack of consensus naturally makes it difficult to determine accurately when the goals of quality and equality are really being achieved.

6. Higher Education Issues. Questions of access, choice, and cost remain major issues in higher education, especially as they relate to equal opportunity. While much has been done to improve access, lower income and minority students do not attend postsecondary institutions in proportion to their numbers in the population. For example, 53.5 percent of 1974 high school seniors from families with incomes of $25,000 or more planned to go to a 4-year college. Of those from families with incomes of $5,000 or less, only 12.4 percent had similar plans (Golladay, 1976). One of the difficult issues facing society is whether it has a responsibility to make every kind of post-secondary experience available to everyone who wants it.

Many colleges are having financial difficulties because of sharply rising costs. At the same time, some young people and scholars are questioning the value of a college education. Recent analyses suggest that the declining financial returns from an investment in a college degree have made it economically unprofitable for many young people to attend college. This factor, combined with the end of the military draft and the slowing down in population growth, could produce empty facilities in some college sectors. At the same time, there seems to be a mounting demand for alternative forms of postsecondary education for people who cannot or do not want traditional, full-time higher education.

The Limits of Schooling

The hopes and expectations of Americans have been reflected in their schools. When the schools have been asked to do too much, the results have been disappointing. The schools by themselves cannot solve deep social problems, although education does have a role to play. The state of American education today is partly a product of swollen and then deflated expectations. We have not been clear enough about priorities and missions for our schools. Repeated reform schemes have been launched to make the schools more responsive, effective, or relevant. Too often, these reforms have been accompanied by generalized criticism of the schools and school personnel. These attacks have produced understandable anger and defensiveness among its targets, who have been expected to embrace the latest reform.

Perhaps too little attention has been paid to what the schools can and cannot properly be asked to accomplish. People often do not recognize that the schools are only one of many institutions responsible for resolving social problems, and that the cost of trying to accomplish all these tasks is enormous. Lately, we have had a clear perception of these limits, both those imposed by financial resources and those created by the social environments in which schools operate.

1. Financial Limits. The size and scope of American education is a stunning accomplishment. The school system grew enormously during the nation's first 200 years. Likewise, the resources devoted to education ballooned—from $14 billion in 1953-54 to $108.7 billion 20 years later. But now the contribution to education seems to be leveling off. It has hovered just above 7.5 percent of the Gross National Product since 1969-70. This level trend is expected to continue through at least 1981 for elementary and secondary

schools. Modest increases are expected for higher education (Golladay, 1976).

With declining enrollments, a leveling of financial support is predictable. Schools do not need so many new facilities or teachers now as they did when they were trying to absorb the children of the "baby boom." However, level support will make it harder to provide poorer districts with needed resources. In the past, increases to poorer districts often came from increases in total support. In addition, new services, programs, and innovations often were funded with growth money. Now, adding something new frequently means that something old must be discontinued. In addition, public expectations that have been written into desegregation, nutrition, bilingual, and other legislation often are not matched with sufficient funds.

While educators naturally lament the financial crunch, it is noteworthy that much of the competition for public moneys comes from other worthwhile domestic, public service programs. Government spending has increased for unemployment compensation, Social Security, health programs, energy development, welfare, and environmental protection. This competition will continue. But many of these programs address the same problems that education wants to solve. If all the social service programs could foster a sense of partnership, the competition for scarce resources would not seem to be as painful.

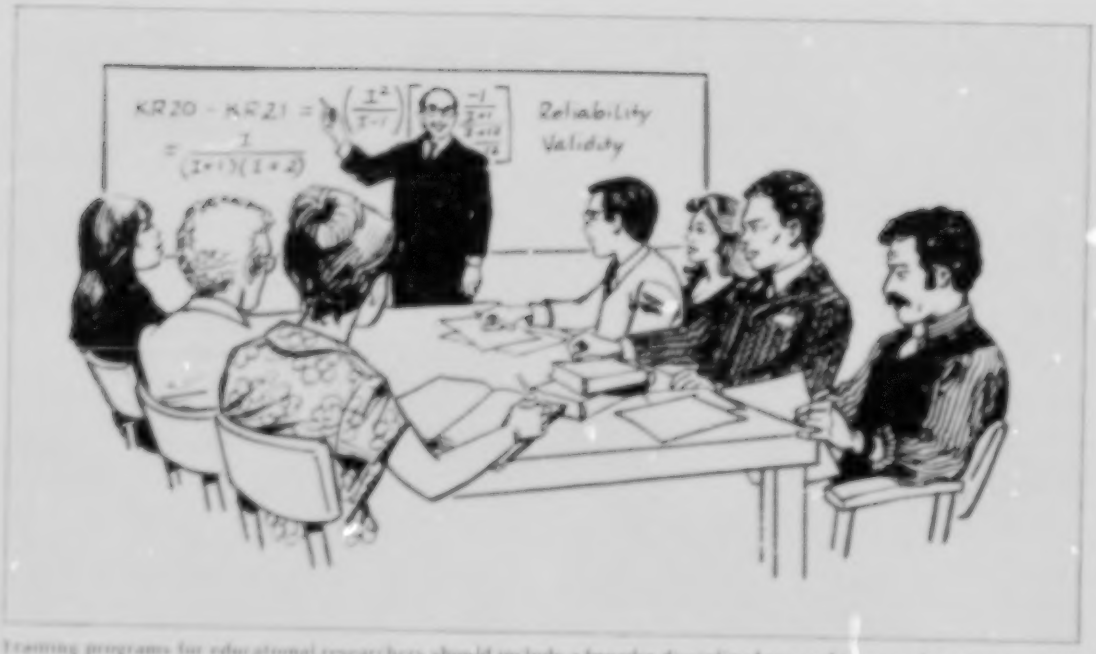
2. Social Limits. A sense of partnership among all social programs could benefit schools, for schools may be more affected by the social forces than social forces are affected by schools. The Council wishes to emphasize that the impact of nonschool environmental factors have not been sufficiently recognized. Television, changing technology, changing life patterns, ill health, hunger, emotional distress, social deprivation, and many other factors all take their toll on effective teaching and learning.

Educational Research: Reflections on Its Status and Future

Although educational research is prominent in today's educational landscape, the term seems to defy simple definition. Some people prefer a new term, "knowledge producton and utilization," because it is more comprehensive than educational research and reflects the current emphasis on the use of knowledge and products to improve education. However, the general term "educational research" is used in this report to refer to the four major functions that fall within the broad definition: research (basic and applied), development, dissemination, and utilization. These categories represent a handle with which to grasp the concept of educational research and are not meant to establish a dogmatic definition.

Education became the subject for scholarly inquiry in the 1850's when Henry Barnard established the *American Journal of Education*. During this early period, the emphasis was on identifying and reporting educational practices. This approach was carried into the Bureau of Education (predecessor to the U.S. Office of Education), of which Barnard was the first commissioner. The experimental approach to education emerged in the 1890's with the contributions of such scholars as John Dewey and E. L. Thorndike. This was followed by the development and widespread diffusion of mechanisms to test student aptitude and achievement. By the 1920's the fascination with testing had reached its peak. Educational research declined into relative obscurity in the 1930's and 1940's. The reasons for this decline parallel some of the current problems educational research faces. The scarcity of money for educational research during the Depression years and World War II resembles today's economic status. In addition, the reactions of teachers and administrators against the enthusiasm for testing of the 1920's sound familiar. These practitioners felt threatened by standardized tests that could be used to measure and compare classroom and school performance.

The Cooperative Research Act of 1954 signalled the entrance of educational research into its early growth period. But two events unrelated to educational research gave it strong impetus. One was the U.S. Supreme Court decision, *Brown v. the Board of Education of Topeka*, which focused national attention on education for minorities. The second event was the launching of Sputnik in 1957, a feat that challenged America's preeminence in science and technology. As a result, Congress passed the National Defense Education Act of 1958. But it was the 1960's that brought the fastest rate of growth and development for the



Training programs for educational researchers should include a broader discipline base and increased participation by women and minorities.

educational research enterprise. The Vocational Education Act of 1963 earmarked 10 percent of its allocation to the States for research. The Elementary and Secondary Education Act of 1965 codified a national concern for impoverished and disadvantaged students. The act and its subsequent amendments provided funds for research, development, and demonstrations of many different approaches to solving educational problems. Between 1965 and 1967, 21 research and development centers, 20 regional education laboratories, and more than 100 research training programs were established. The ERIC information storage and retrieval system was created and Federal funds were also used to promote the use of innovative products in the schools under Title III of the Elementary and Secondary Education Act (Education Division HEW, 1976; Radnor, 1976; Cronbach and Suppes, 1969).

This flurry of activity propelled the Federal Government into leadership in the funding of educational research. To consolidate and focus the effort, Congress created the National Institute of Education in 1972. However, the creation of NIE came at the end of the heyday of growth in educational research. NIE's budget declined from $110 million in 1973 to $70 million in 1976.

Current Capacity of Educational Research

After its rapid growth during the 1960's, educational research finds itself today at a somewhat awkward stage of development. The parts of the total research effort are poorly coordinated and integrated. Too little is known about the size, shape, and scope of the overall research enterprise. Often, educated guesses are the best that can be produced in terms of funding levels, kinds of research agencies, status of the knowledge base, and adequacy of personnel. The effort to strengthen and improve the educational research system requires better knowledge of the dimensions of the system.

Because science has provided answers in such diffuse fields as space exploration, military hardware, agriculture production, and medicine, people often assume that science also can provide answers for education. Sometimes it can. But systematic efforts to build an educational research enterprise are barely 20 years old. The accomplishments of space, medical, agricultural, and military science result from long and concentrated periods of research system building. And all of these systems have produced their share of failures and unfulfilled hopes.

Despite decades of biomedical research, for instance, the common cold, heart disease, and cancer remain serious unresolved problems. Although the nation began to develop its agricultural science system more than a century ago, the real payoff in agriculture did not come from another 30 to 40 years.

Agriculture and the other great research systems contain a solid core of high quality researchers and developers. Each system now rests on a solid base of scientific knowledge and technology. And each provides for linkages between research and practice. Educational research has not achieved any of these major indicators of excellence in capability. Generally, the investment in educational research is small—one half of one percent of the total national outlay for education. This percentage is miniscule compared to the research investment in agriculture (5 percent) and industry (10 percent), for example. The central core of high quality educational researchers is small and skewed toward the disciplines of education and psychology (Radnor, 1976). The knowledge base remains weak and fragmented. The focus on psychology has underplayed important dimensions that could be provided by economics, law, political science, anthropology, history, and other fields of inquiry. Research results often are not available to practitioners and other researchers because the linkage mechanisms are undeveloped. There are a few strong development organizations, notably the labs and centers, but they often do not work closely with State and local education agencies. Too many teachers are unfamiliar with the results of educational research. Researchers pay too little attention to the continuity of education, focusing instead of distinct levels—preschool, primary, secondary, postsecondary, and adult—or on problems—reading, finance, productivity, motivation. Much of the current work is not grounded in the realities of the educational system, because practitioners have little voice in setting the research agenda and in deciding which projects and problems will be carried out.

The immaturity of educational research is not surprising, since it has existed in an organized fashion for only two decades. Nor is the picture entirely negative. Research has benefited education. Schools are more flexible and focus more on individuals as a result of the work of educational researchers. Math and science curricula have undergone reforms, as have many of the vocational curricula. Innovations such as individually guided education, experience-based career education, computer assisted instruction, and improved management procedures attest to the usefulness of educational research.

Toward Stability at NIE

NIE was created in 1972 with many high hopes. But the hopes diminished in proportion to the Institute's failure to establish its own priorities right from the beginning. The fact that NIE inherited multi-million dollar projects from the U.S. Office of Education and the Office of Economic Opportunity hampered its ability to create its own sense of mission and direction. While trying to integrate these inherited programs, NIE neglected many essential political and educational constituencies. To compensate for this neglect, NIE later tried to respond to too many expectations with too few resources. Consequently, NIE's support, prestige, appropriations, and morale declined for a time.

The Institute's image problems also resulted from a misunderstanding of the education research process by some policymakers and the public. While many supporters of NIE recognized the need for long-term projects which carried no immediate, large-scale payoff, their patience was not shared universally in governmental, educational, and public interest circles. Moreover, NIE paid too little attention to informing taxpayers about its research activities and their results. The lack of communication tarnished the image of NIE and eventually eroded much of its support.

NIE has now overcome its initial fragmentation of effort and begun to achieve a cohesive, well-defined program. Reduced appropriations necessitated choices about which educational problems should be addressed by educational research. As a result, NIE focused its efforts and organizational structure around its six program groups: Basic Skills, Education and Work, Dissemination and Resources, Educational Equity, Finance and Productivity, and School Capacity for Problem Solving.

Aware of the importance of communications, since July 1, 1975, Institute staff members have met with dozens of educational

and citizen groups to discuss NIE programs in particular and educational research in general. In establishing its priorities, NIE sought greater participation from educators and laymen at every level. Typical of the groups consulted are the Council of Chief State School Officers, the National Education Association, the American Educational Research Association, the National Indian Education Association, and the National Association of State Boards of Education.

Much of the new stability at NIE resulted directly from solid leadership at the top, particularly from Director Harold L. Hodgkinson. Throughout fiscal year 1976, Dr. Hodgkinson labored tirelessly to build a strong and competent staff, to improve agency morale, and to mend fences with the Institute's various constituencies. The reauthorization of the Institute in 1976 can fairly be seen as a Congressional vote of confidence in the agency. As a result of this new stability and improved image, NIE has been able to attract and retain a well-qualified staff. A series of meetings have enabled senior staff to participate in and be informed of long-range Institute goals. Such gatherings lead to better management and improved morale. For continued improvement of its organizational health, NIE has sought critical examinations by recognized experts external to the agency. Director Hodgkinson has authorized the annual convening of an external panel for each of the six program groups. These 3-day critical reviews provide candid appraisals of progress toward objectives and valuable information for future planning. Council members and NCER staff attend each of these reviews.

Clarification of NIE's Role

When establishing its priorities, NIE must grapple with a variety of often conflicting expectations. For example, the six educational crisis areas perceived by the general public are not easily integrated with the Institute's statutory priorities:

- To advance the practice of education as an art, a science, and a profession;
- To solve and alleviate educational problems;
- To strengthen and build the educational research system;
- To improve the knowledge and technology base of education;
- To assist in improving student achievement in the essential skills;
- To assure equal educational opportunity for all students;
- To prepare young people and adults for entering and progressing in careers;
- To overcome problems of finance, productivity, and management.

Obviously, NIE's assignment contains important but sometimes incompatible missions. It is difficult for any agency to accommodate such varied roles as: the bold innovator responsible for reform and renewal, the patient researcher accumulating knowledge and understanding, and the sensitive public servant responding to myriad social problems. Because the Council is mindful of these tensions, it feels obligated not only to help NIE clarify its complex missions, but also to articulate them to educators, to Federal policymakers, and to the American people.

A perusal of the NIE activities summarized in Chapter 4 of this report shows that NIE has done a creditable job of performing its multiple functions during fiscal year 1976. The responsiveness of NIE to current educational problems is graphically revealed on pages 147-150, which cluster NIE program activities under each of the six problem areas. The overview of Institute activities highlights NIE's attempt to fulfill its legislated mission through projects that focus on better use of research, improvement of teaching, concentration on reading, career awareness, school finance reform, and compensatory education.

As NIE continues to struggle with a tangle of competing problems, expectations, and objectives—each having its own distinctive importance—the Council must serve a mediating role by helping the Institute weigh and balance its priorities. When equally valid objectives and values appear to clash, the Council must assist NIE in determining the wisest course of action.

A review of NIE's history shows that the Institute has been plagued by a lack of continuity and stability. Not only has it been bombarded by demands for immediate attention to national problems, it also has been hampered by repeated changes in leadership and guidance. NIE now needs an enduring, overarching framework of fundamental principles against which to gauge more temporary, day-to-day concerns. Until such principles are articulated and understood by NIE and the en-

tire education research community, that stability will remain elusive.

Guidelines for Future Research

With reflections on the past, the Council proposes 10 general guidelines for future research efforts. We feel the emerging research capacity requires some focus to make the research effort both efficient and effective. With the growing concern for prudent expenditure of tax dollars, educational research must be guided to make the most of limited available resources. However, the demand for accountability must be balanced with the need to take risks in trying to discover new knowledge and to develop new products and processes. While some of these guidelines are mutually reinforcing, it is obvious that all cannot be adhered to equally and that difficult choices in emphasis will have to be made. A central purpose of the National Council on Educational Research is to provide guidance to those making such choices.

1. Think systematically about Education and Educational Research. Although research has become a primary vehicle for promoting change in education, substantial improvement of education cannot come from research activities isolated from other parts of the education system. All elements of the educational system are important. The partnership between researcher and practitioner is essential if the overall objective of educational improvement through research is to be reached. Such improvement also requires articulation among the various parts of the system—teacher education, administration, planning, and research.

Besides looking at research as one vital component among many in the total educational system, a proper perspective and balance must be maintained concerning the different parts within the research component. This balance has not been maintained among Federal programs in support of educational research. The report on Fundamental Research Relevant to Education (1977) notes that since 1968 support for demonstrations has increased 65 times; dissemination has multiplied 15 times; and evaluation of new programs has increased 12 times. In contrast, applied research has received only modest increases and fundamental research has received no increase.

While a better balance is clearly essential, the Council also wants to emphasize that all aspects of research are needed for the improvement of education. Research, development, and dissemination each constitute a legitimate research enterprise that reinforces and enhances the whole. For example, the mission of research is to discover, reinforce, or refine knowledge, either through building and testing theories (basic research) or through applying research theory to practice (applied research). This research provides the conceptual base for development goals such as the production of materials, techniques, processes, hardware, and environments which represent substantial and measurable improvements over those currently in use. Finally, dissemination makes the knowledge and materials produced by research and development available to other researchers and to practitioners. New knowledge is of little use if it does not find its way into the hands and minds of the practitioners. Information about new discoveries must be made available to the people who need to know it.

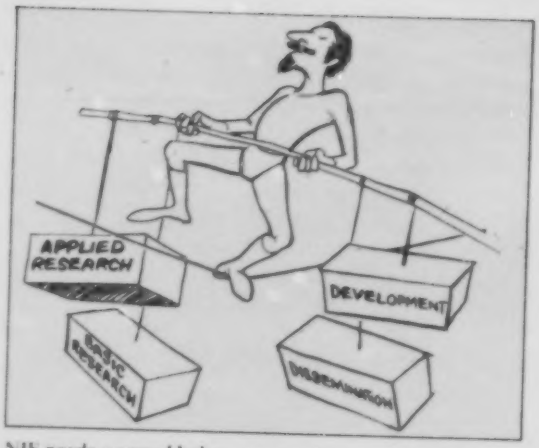
2. Acknowledge the Concept of Limits. Educational change can be systematically anticipated, controlled, and understood only to a limited extent. Plans and planning processes usually are based on the assumption that society behaves in a rational manner. Yet, research projects frequently are thrown off balance by inexplicable social trends and by the inherently unpredictable nature of human behavior. Therefore, researchers have a difficult time establishing clear cause and effect relationships between new approaches and educational improvements. It is virtually impossible to attribute changed results to any single factor. Social change is slower, more subtle, and more complex than is generally believed. Considering the enigmatic nature of change, plus the emotional, value-laden, and political context of education, an immature educational research system is hard pressed to demonstrate its productivity and worth as measured by its impact on educational change.

Past research has shown that education is not a panacea for social problems, and that the short-term potential of educational research must not be overestimated. Patience, time, and money are needed to build the knowledge base, fashion new procedures and programs, and put these products into operation. While this is happening, educational research must acknowledge its limits and keep its claims modest.

3. Develop a Nationwide Educational Research Network. Education is evolving toward a national—but not a federally directed—orientation. This orientation is pluralistic and decentralized and involves coordination of many participants. Educational research can encourage this evolution of promoting cooperative activities, information sharing, and collaborative decisionmaking on national educational policies. Teachers and administrators must play more than the passive role of consumers of educational research. Educational research needs some status equalizers to dispel the notion of "practitioner as dunce" so that good ideas can emerge from the field and be transmitted easily and quickly to others in the field. Teachers, for example, should often be used as consultants because of their demonstrated expertise and insight. The use of practitioners on NIE review panels and in the preparation of policy papers has been a gratifying step in the right direction and has provided a welcome perspective from the field.

To foster a genuine partnership in education, contributions must be sought from competent research staffs at State and local educational agencies, vocational education research coordination units, the large network of Title III centers, the universities, the labs and centers, and the private, nonprofit educational corporations. Aggressive efforts should be made to involve more women and minority persons. Also, a place must be made in the research enterprise for school board members, textbooks writers, members of Congress, and other policymakers.

4. Develop Better Ways to Set Research Priorities. No effective mechanism currently exists to identify the needs of the educational system. And it is little consolation to the Council and NIE that most other agencies have equally primitive processes for planning social research. In an attempt to get a better understanding of American views about education, NIE identified six major concerns in American education as reflected in a cross section of polls and publications. It is gratifying that a large portion of NIE's activities directly address these major problems of finance, governance, accountability, curriculum, desegregation, and discipline. Nevertheless, more precise and definitive methods of setting the national educational research agenda are necessary. NIE needs better information systems for identifying educational problems,



NIE needs a sound balance among basic research, applied research, development, and dissemination.

for determining whether they can be ameliorated through research, and for reaching at least partial consensus regarding priorities among the problems. The development of better ways to set research priorities will require not only thoughtful national leadership, but also a commitment and healthy interaction from grassroots contributors.

5. Increase the Utility of Educational Research. We should be making better use of the results of educational research. In his addendum to the Campbell Report (1975), Sam Seiber raised the critical issue of the balance between the supply of educational knowledge and products and the demand for these resources. Too little is being done to stimulate demand and make it more enlightened. Robert N. Bush (1976) points out that the presumed beneficiaries of educational research are not always well informed about it and sometimes hold distorted views, such as thinking it too esoteric. Apathy toward educational research must be replaced by enthusiasm and awareness on the part of education interest groups, administrators, teachers, and parents. Only through a partnership with all sectors of the educational community can NIE stimulate the interest and demand needed to build a bridge between educational theory and educational practice.

6. Improve the Management of Educational Research. Cooperative efforts such as the storage and retrieval of data in education information systems will require improved management of educational research across Federal, State, and local jurisdictions. Some 30

Federal agencies spend approximately $500 million on educational research with little coordination among agencies and departments. States and local school districts invest in research without sharing the results of their studies in anything more than a haphazard manner. While this lack of coordination is wasteful a heavy-handed "captain of industry" managerial style would be dysfunctional. Instead, the Council feels a more appropriate management style is a low-key, collegial, supportive approach, bent on establishing linkages rather than dominating them.

Good management also involves making researchers accountable without destroying their freedom of inquiry. Requests for proposals (RFP's) do not always provide adequate flexibility for unanticipated findings and unexpected questions. Procurement and monitoring practices must not restrict the researcher from following opportunities that were not anticipated when the research was proposed or from rechecking previous results that new findings call into question.

7. Become More Cost-Benefit Conscious. As an outcome of the interest in accountability, more performance-oriented data is requested by students and parents who are trying to weigh the relative merits of colleges and by teachers who need to assess systematically the curriculum materials available in their instructional area. Moreover, taxpayers, students, parents, and legislators increasingly look at education as an investment and expect educational research to assist them with cost-benefit analyses so they can see the return on their dollars. Therefore, it is necessary to devise better means of comparing the relative educational and social benefits of products, programs, and procedures in terms of their costs. The Council feels a direct dollar approach is not enough. A more sophisticated strategy is needed to relate outputs to quality of individual lives, occupational mobility, personal happiness, and other social dimensions.

8. Develop Better Techniques of Knowledge Synthesis. In order to improve the management of educational research and to provide its sponsors and consumers with better performance data, more serious attention must be given to knowledge synthesis in education. Although NIE has made strides through ERIC to provide a system for acquisition and retrieval of information, at this time too few educational studies are conceived and carried out with standard definitions and designs that provide a common basis for comparison of results. It is a disservice to continue to pile up hundreds of isolated studies with findings that cannot be combined for analysis due to incompatibility of research design. Before the staggeringly large number of uncodified educational studies can be identified and integrated, a better understanding of knowledge synthesis must be gained. Perhaps some of the money that is currently used for additional studies will need to be rechanneled to provide for more research in knowledge synthesis itself.

9. Build an Adequate Research Workforce. A new generation of research workers will be needed to carry out the previous eight guidelines. In comparison to health, energy, and industry, educational research has a small and inadequate workforce. In addition, attention must be paid to critical areas of need such as dissemination for which few expert workers have been specifically prepared. The disciplinary base should be broadened to include more researchers in the humanities and social sciences other than psychology and sociology. The search for superior talent should avail itself of today's ample supply of doctorate-trained individuals as well as the large number of mid-career educators who need professional stimulation. The Council stresses the obligation to increase both the number of women and the number of minority persons in educational research.

10. Reward Excellence. Visible models of excellence serve both as a source of national pride and as a challenge for future efforts. The Council encourages NIE to provide national leadership by seeking out, recognizing, publicizing, and rewarding excellence wherever it is found in the educational system. Rewarding excellence stimulates the entire enterprise toward higher levels of performance. As more educators turn their attention toward educational research, and as the community of researchers collectively raises the standards of such research, the result will be an improvement in knowledge production and utilization.

Council Activities in Review

The Council in fiscal year 1976 focused its policy actions on several broad areas of importance to American education and to the educa-

tional research enterprise. These resolutions relate to the legislative mandate of the Council and NIE and to the recommendations made by the Campbell Commission (1975):

1. Special Institutional Relationships. Under the policy of strengthening the research system, the Council worked to implement and modify a resolution calling for the establishment of special relationships with research institutions to work directly with NIE on a long-term and large-scale basis. Instead of the national educational laboratories that were called for in its original resolution, the Council at its July 1976 meeting directed NIE to establish or support "mission-focused" national institutions when the Director determines that they are needed to make substantial progress on significant problems in education. In addition, the Council directed the Institute to establish special relationships with research organizations, including labs and centers, that would provide sufficient stability of support and foster collaborative action. In accordance with the wishes of Congress expressed in NIE's 1976 reauthorization, the Council stressed that the research needs of each region of the nation should be served. The Council and NIE recognize that the Federal Government already has made a considerable investment in supporting and maintaining the labs and centers. The Council encourages NIE to work closely with the labs and centers and other research units in devising research priorities and programs that can serve the educational community.

2. Women and Minorities. In the important area of equal educational opportunity, the Council at its July 1976 meeting requested the Director to "assemble and synthesize such knowledge as may exist" concerning the participation of minority persons and women in the educational research effort and ways to increase that participation. The statement was a followup to the Council's 1975 directive that the Institute should increase the participation of minority persons and women in educational research. In response, NIE allocated $950,000 in fiscal year 1977 and $4 million for fiscal year 1978 to establish a training program for minority persons and women.

3. Curriculum Development. The Council reviewed and helped guide NIE's efforts to implement a Council resolution that the Institute prepare recommendations for the formulation of Federal policy in curriculum development.

As a research field, education remains relatively immature — especially in its dissemination mechanisms.

Chapter 3 discusses the implications of Institute involvement in curriculum development and presents the Council's policy for such involvement in the future.

4. Monitoring the Research System. The Council directed the Institute to base all new initiatives and planning on the most effective use of Federal resources within the total national research effort. To provide the information needed to comply with this directive, the Council also directed NIE to collect and maintain timely information about significant educational research performed by national education and research organizations, universities, other Federal agencies, State agencies, and nationally recognized private research organizations. The directive accords with Congressional policy that NIE provide leadership and coordination of national and Federal educational research policy. As a first step in compliance with the directive, NIE produced the *1976 Databook: The Status of Educational Research and Development in the United States* and published it with the Council's fiscal year 1975 annual report.

5. Postsecondary Education. The Council urged NIE to reexamine the degree to which it should be involved in educational research in postsecondary education. The Council received and discussed a report on "Research Opportunities in Postsecondary Education for the National Institute of Education." The report was NIE's response to a Council resolution that had called on the Director to review the fiscal year 1977 budget with a view to increasing the attention to research in postsecondary education. Distribution of funds

remains a lively issue within the Council and NIE, however, for it is not easy to judge how limited resources are best allocated to the urgent "researchable" programs plaguing education's several levels. Clearer priorities are called for.

Council Actions in the Future

Policy questions facing the Council in fiscal year 1977 grow out of those it confronted in 1975 and 1976. The durability of these issues underscores the long-term nature of educational research and the persistence of problems and opportunities over time. In drafting its preliminary policy agenda for the coming year, the Council has recognized the need to establish priorities for its own activities. The Council will work vigorously on a limited number of major concerns and deal with others less intensively. Much groundwork for Council action is prepared by its three standing committees—the Executive Committee, the Program Committee, and the Committee on Review and Reports. The Council streamlined its committee structure in 1976, assigning major responsibilities to each of the committees.

Executive Committee Priorities

The Executive Committee was given responsibility for developing the Council's policy agenda. Many issues that once were resolved by the full Council are now worked through by the Executive Committee first. The committee is examining the Council's current policy inventory to identify gaps such as the rights of human subjects in educational research and the question of students' behavioral problems. The Executive Committee will review these policy gaps for possible placement on the Council's agenda. The committee also is engaged in ordering, recodifying, and reaffirming former Council resolutions that are still active.

The Executive Committee will continue to guide NIE's long-range planning efforts that were begun under Director Harold Hodgkinson. The committee and the Council will help provide continuity in planning under Hodgkinson's successor. As part of that planning effort, the committee will examine and evaluate NIE's priorities to insure that they continue to be timely and focused on important areas of education.

To further improve the Council's capacity for policymaking, the committee will continue to revise the Council's bylaws to insure clarity and completeness. This overdue revision was begun in 1976. Its completion will enhance the efficiency of the Council. And to insure the smooth incorporation of new members into the flow of Council activities, the committee is developing a handbook, which also should be useful in orienting the new director to the Council's policies, procedures, and issues.

In addition to developing an agenda and continuing to work on streamlining Council procedures, the Executive Committee has taken responsibility for procurement policy. The Campbell Commission (1975) made a number of recommendations and suggestions concerning NIE's procurement procedures. It states, "That since the goal of quality work requires a diverse array of procurement approaches suited to each type of R&D work, the state of the community of performers, and the preferred role of the NIE staff, NIE should devote resources in the near future to strengthening its repertoire of available tools and the abilities of the program managers to use them." The Council is awaiting a report from the Director on procurement policy and will endeavor to improve and clarify its policies in this vital area.

Related to procurement policy is the balance of funds going to different NIE activities—research, development, and dissemination. The Council approves of the increasing portion of NIE funds devoted to basic research. With a weak knowledge base, education needs a strong and vigorous basic research effort to uncover the new knowledge that will provide the foundation for improved educational practices in decades ahead. Great care must be taken to insure that development and dissemination projects are built on solid research foundations and are not merely responses to the demands of a vocal constituency or to some popular fad.

Program Committee Priorities

The Program Committee during 1976 was responsible for overseeing a number of key activities: development of Council policy on NIE's role in curriculum development, clarification of NIE's relationship with labs and centers, increasing the participation of women and minorities in educational research, establishment of more sharply focused efforts in

bilingual education, higher education, and fundamental research, and analysis of issues relating to field initiated studies. During 1977 the committee will continue to monitor and follow through on these initiatives, but it will focus its principal attention on the following major issues:

1. **Fundamental Research**. Perhaps the most important thing that the Institute does is to improve the knowledge base of education. Therefore, the extent and quality of fundamental research in education will be a major concern of the Program Committee and Council policy activity in fiscal year 1977. In fact, fundamental research will be the featured topic of the 1977 Fourth Annual Report. The Institute under Council direction has commissioned a study of the state of fundamental research in education by the National Academy of Sciences and the National Academy of Education. A distinguished committee of 16 members is looking into the role of NIE and other Federal agencies in supporting basic research and the need for policy changes in this area. The report, due in the spring of 1977, will serve as a basis for Council policy-making in the crucial area of basic research.

2. **Field Initiated Studies**. In an issue strongly related to procurement policy, the Council now awaits a report from the Director on the involvement of the field in planning, initiation, selection, and evaluation of educational research supported by NIE. The Campbell Commission (1975) found that competent educational researchers were concerned that their expertise and background were not being adequately used in the planning and design of future NIE work. Good ideas in the field must be identified and used. Creative ideas come not only from researchers but also from educational practitioners who are the ones who will put to use the results of educational research. Therefore, the Council is concerned about the balance of projects that are solicited by NIE and those that are initiated in the field. While it is important for NIE to target its funds where they will have greatest impact, a substantial portion of its budget should be devoted to projects proposed by researchers where the payoff chances are riskier or more long term. The whole issue of field involvement is a com-

plex question of great importance to the Council.

3. Strengthening Schools of Education. Schools of education train nearly all educational professionals in the United States. The Program Committee will assess the current status of these schools as a first step in determining NIE's proper role in assisting colleges of education to help solve problems related to educational quality.

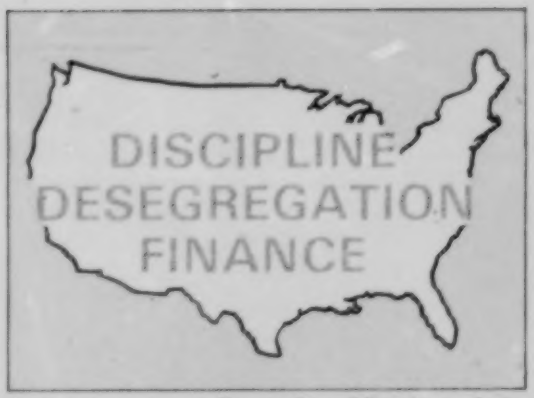
4. Bilingual/Multicultural Education. American education has not been sufficiently sensitive to the needs of citizens who speak a language other than English or whose cultural background is different from the predominant one. Although NIE has supported a number of bilingual/multicultural projects, a more focused research effort is needed in this important area. The committee is reviewing NIE's position in regard to establishing a national Research Center for Bilingual Education.

5. School Finance. Americans identify school finance as a major concern. Problems of school finance include the inequitable distribution of funds among schools, school districts, and States. In addition, the courts in a number of States have declared that school finance mechanisms are unconstitutional. The committee is examining the problems of school finance in an attempt to define NIE's role in seeking their solutions.

6. Other Issues. Three other issues probably will receive considerable Council attention in 1977 and thereafter. The first deals with the safety and protection of human subjects in educational research projects. Issues such as due process and privacy are likely to gain public attention and could affect the conduct of educational research. A second issue is that of behavioral problems in the schools. Both passive and aggressive behavior detract from the learning process, even though behaviors that have become clustered in the public mind under "discipline" receive major attention. Until the motivational and behavioral issues are better understood, other curricular and educational innovations may be difficult to implement. The Program Committee will also deal with NIE's response to the provision of the 1976 amendments that called for the use of field educational extension agents.

Review and Reports Committee Priorities

Under the revised committee structure, the Committee on Review and Reports is responsible for Council oversight of NIE, as well as for producing the Council's annual report. The committee has devised a continuous oversight plan that will make use of resources inside and outside of NIE. The committee hopes to combine the planning, reviewing, and reporting mechanisms into a continuous cycle that will culminate in annual reports. In addition, the reviews will provide the Council with the information it needs to assess existing policies and to make new ones for NIE.



Americans in polls and publications have identified the major problems of education as discipline, desegregation, and finance.

The committee will make use of a number of review mechanisms in carrying out its responsibilities. Individual Council members have been appointed to serve in a liaison capacity between the full Council and each of NIE's six program groups. Each liaison helps Council colleagues understand and appraise the assigned program group. The committee also expects to make greater use of outside consultants for the review of NIE's ongoing activities and programs. However, the Council has not exercised its newly authorized option of employing an independent staff. It has preferred instead to call on the Director and the NIE staff.

In this regard, the committee will rely heavily as it has in the past on reports from the Director on NIE activities, the status of education, and the condition of educational research. The Director provided extensive information on NIE activities and the condition of educational research for this year's annual report, for example. In addition, the Council will use the annual "external reviews" of each NIE program group that the Director has initiated. Other aspects of the Council's review of NIE will include external contacts by Council

members, presentations to the Council by outside persons and organizations, and field trips and site visits by Council members.

A More Active Council and a New Director

In conclusion, the Council believes that its 1976 activities and 1977 plans show that it is becoming much more vigorous and assertive in the policy arena and that it has taken seriously the admonition of the House Committee on Education and Labor in its report on NIE's reauthorizing legislation: "The Committee wishes to reemphasize that the National Council on Educational Research was established as a policymaking body of the Institute, and was not designed to be an advisory body. It is the hope of the Committee that the Council will perform its duties more actively and assertively."

In performing those policy functions, the Council will try to provide a measure of continuity and stability for NIE while a new Director and Deputy Director are assuming their responsibilities. The Council is troubled by the repeated changes in leadership at NIE. More than anything, the agency needs a period of stability to consolidate the gains that were made in 1976 under Director Hodgkinson's direction.

Time to achieve that stability was provided by Congress when it reauthorized NIE in 1976. By this action, Congress reaffirmed its commitment to a Federal role in educational research. The statute has strengthened NIE's leadership in the educational research community, particularly at the Federal level. Although funds are needed to energize that commitment and to underwrite that stronger leadership, and while appropriations have lagged sadly below the level authorized, the 1976 legislation nevertheless represents a welcome reaffirmation of the national government's dedication to educational research. The new Federal Council on Educational Research and Development also offers an opportunity to provide the sorely needed coordination of the Federal educational research effort.

The Council appreciates the opportunities it has had to make its views known to the President and Congress. It further appreciates the vote of confidence and the legislative continuity and stability that Congress provided NIE and the Council through reauthorization in 1976.

Chapter 3:

NIE's Role in Instructional Program Improvement: A Report on Policymaking

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Preface

In September 1975, NCER passed a resolution requesting, "... the preparation of contending, informed 'briefs' on the value of curriculum change as an aid to schools, and for systematic public discussion of the formulation of a policy to guide NIE's curriculum development activities." In November 1975, a Task Force was appointed to carry out these charges. In the ensuing months the Task Force conducted a number of activities: review of relevant literature; discussion with members of 37 professional and lay organizations; the commissioning of 27 papers by scholars, practitioners, experienced curriculum developers, and policy analysts; the convening of a 3-day national conference in Washington; the sponsorship of four public meetings across the country; and a mailing of a set of "Guides for Public Discussion" to a sample of the memberships of 77 organizations (see the appendices for further details).*

This chapter contains three sections: first, the NCER policy statement and accompanying report by the Program Committee; analysis of Task Force findings; and finally, a discussion of the major policy options which emerged from the Task Force inquiry, together with the Director's policy recommendation. This organization emphasizes policymaking as the Task Force's principal purpose, and reveals the bases for the recommended policy. (Copies of the full report submitted by the Director to NCER—including detailed exegeses of the major policy options— are available from the NIE Curriculum Development Task Force.)

Before beginning, some remarks about terminology are in order. In general, the Task Force discovered that problems of meaning plague curriculum discourse. The cry, "Define your terms!" is well taken, but misses the point made by modern philosophers of language that no stipulation of terms, however complex, is satisfactory for all the language contexts in which those terms are used. The semantic space of curriculum discourse has been mapped and remapped, but, to paraphrase, never have so many said so much to so little avail and with so little agreement. We address this problem first by making some initial distinctions, but more importantly by pointing, as we go, to agreements, disagreements, and some simple understandings often confused by the use of language.

At the heart of curriculum discourse are the terms "curriculum," "curriculum development," and "instruction," and considerable discussion among educators concerns the meaning of each of these terms. Meanings change over time, too, so that the term "curriculum" which once referred to course content, now means "all learning experiences" to some people. We shall say more below on the implications of various meanings for these terms, but here we stipulate the definitions of some terms we will use repeatedly throughout this report. Our definitions are as follows:

Curriculum: the intended outcomes of instruction (i.e., all knowledge, abilities, skills, attitudes, values, behaviors, and other attributes intended for acquisition by learners)

Instruction: the process of providing opportunities to learn the curriculum (i.e., to acquire the intended outcomes)

Learning: the process of acquiring knowledge, abilities, etc., whether intended or unintended

Instructional Programs: all types of plans (e.g., designs, descriptions, guides) and materials (e.g., textbooks, films) intended for use by teachers and learners in instruction and learning

Research: the conduct of systematic inquiry

Development: design and production of instructional programs

- **Prototypic Development**: Complete design duction, on a limited basis, of instructional programs developed only as far as necessary to determine effectiveness and to assist potential sponsors in deciding whether full-scale development is warranted
- **Full-Scale Development**: complete design and production of instructional programs ready to be reproduced and disseminated for use in classrooms or other educational settings.

Evaluation: the process of assessing the quality and effectiveness of instructional programs

- **Formative Evaluation**: the process of assessing instructional programs to aid

*Task Force products and additional information may be obtained by writing to Jon Schaffarzick (chairman) or Gary Sykes (vice chairman), NIE Curriculum Development Task Force, NIE, 1200 19th Street, N.W., Washington, D.C. 20208.

developers in improving them

Summative Evaluations: the process of assessing the quality and effectiveness of final versions of instructional programs in order to inform those who must make adoption/rejection decisions

Dissemination: the process of making available (a) information about instructional programs, including evaluation results and/or (b) the instructional programs themselves

Implementation Support: The process of assisting adopters in preparing to use an instructional program and/or in the actual use of the program

We finally require a generic term to refer to the full range of curriculum-related activities which NIE might sponsor. Such activities include research related to curriculum, development, evaluation, dissemination, implementation support, and any forms of assistance to others who conduct these activities. To cover all such activities we use the formal term "instructional program improvement" in the policy statements and, on occasion, the formal term "curriculum activities" in the report of findings.

NATIONAL COUNCIL ON EDUCATIONAL RESEARCH

Instructional Program Improvement Policy (March 18, 1977)

Introduction

NIE's legislative mandate requires that its resources be concentrated on research and development activities in five priority areas. A principal purpose is to improve instructional programs. Under this mandate, the Institute supports and will continue to support various types of basic research which inevitably pertain to what is taught, the instructional materials that are used, and the instructional techniques employed in American classrooms. Moreover, individuals and agencies not funded by the Institute often utilize the results of Institute-sponsored research in developing, improving, evaluating, disseminating, or implementing instructional programs. Thus, although the Institute's basic research activities may not be officially designated "curriculum research" and may not be designed explicitly to affect curriculum practice, almost all such activities do relate to curriculum matters and, to this extent at least, NIE necessarily has a "curriculum role." This policy is not intended to restrict the activities of the Institute in carrying out its several other functions, but to guide the selection and conduct of specific activities directly related to improvements in instructional programs. This policy will apply to all contracts and grants to be awarded by NIE after this policy is adopted.

General Policy

Over the next 5 years (through fiscal year 1981), the primary purpose of NIE's involvement in instructional program improvement shall be to contribute to the equalization of educational opportunity in America. Although other purposes should be pursued, the intention of this policy is to assure that the mix of expenditures in the area of instructional program improvement clearly reflects an emphasis on equalization of educational opportunity.

In contribution to the improvement of instructional programs, NIE's major roles, in order of priority, shall be: (1) sponsoring the conduct, synthesis, and dissemination of applied research on issues of curriculum and instruction, (2) sponsoring efforts to strengthen, facilitate, or coordinate others' work in improving instructional programs, and (3) sponsoring the prototypic development of new instructional programs.

NIE shall consider the sponsorship of full-scale development of new instructional programs when the three higher priority activities alone clearly will not suffice to meet the objectives of this policy, and when completed and tested prototypes of the proposed full-scale program demonstrate high promise. In all but exceptional circumstances, full-scale development may be undertaken only when it is directly related to achieving equalization of educational opportunity. When the Director determines that such exceptional circumstances exist, and that the Institute should sponsor full-scale development to meet a nationally-recognized need or to capitalize upon a special opportunity, he must review his findings with the Council and obtain its concurrence with respect to the circumstances, need, and/or opportunity.

All NIE-sponsored activities in instructional program improvement will include appropriate evaluations of products and the

dissemination of product information and evaluation results. Ordinarily, full-scale development activities will not include NIE sponsorship of the dissemination and implementation of the products of such activities.

Sponsorship of projects shall be given only when the Director has determined that a project (1) does not duplicate work of high quality already being sponsored by others, and (2) does not have a reasonable possibility of being sponsored by other sources.

Implementation and Review

The Director shall prepare, and shall seek the advice of the Council about, a plan for implementation of this policy and periodically shall report to the Council activities under this policy.

An explanation of key terms used in this policy is attached.

Explanation of Key Terms

Instructional Programs: All types of plans (e.g., designs, descriptions, guides) and materials (e.g., textbooks, films) intended for use by teachers and learners in instruction and learning.

Equalization of Educational Opportunity: Attempts to eliminate discrepancies in educational effectiveness by improving opportunities available to those segments of the population currently least well served by the education system, such as ethnic minorities, women, the bilingual, the poor, and the geographically isolated.

Basic Research: The conduct of conclusion-oriented systematic inquiry, the primary purpose of which is to contribute to knowledge.

Applied Educational Research: The conduct of decision-oriented systematic inquiry, the primary purpose of which is to improve educational practice.

Efforts to Strengthen, Facilitate, or Coordinate Others' Work: Attempts to enhance the abilities and performance of state, local, and private agencies in improving instructional programs through NIE-sponsorship of such activities as creating and testing improved development procedures, providing information and analyses needed in development, assisting in the identification of problems and needs, and providing various incentives for the conduct of development.

Prototypic Development: Design and production, on a limited basis, of instructional programs developed only as far as necessary to determine effectiveness and to assist potential sponsors in deciding whether full scale development is warranted.

Full-Scale Development: Complete design and production of instructional programs ready to be reproduced and disseminated for use in classrooms or other educational settings.

Report of the Program Committee to the National Council on Educational Research

Instructional Program Improvement

Background information for this policy resolution is contained in the report, "NIE's Role in Curriculum Development: Findings, Policy Options, and Recommendations." The Committee recommends that the report be read by everyone with an interest in Federally-sponsored efforts to improve instructional programs. While the Committee has not been altogether dependent upon the staff report in arriving at its policy recommendation, and has listened to various citizens and groups, we acknowledge our debt to the Institute staff for its professional work. We commend the staff for its work in arranging the national curriculum conference, the position papers, the discussion guides, and the public and professional meetings. The results are summarized in the report.

A wide range of public and professional opinion is embodied in four policy options, which are meant to assist in formulating Institute policy in this area. The Director has recommended adoption of option #3.

While the Committee also accepts the basic philosophy of option #3, which gives priority to research, facilitation, and prototypic development, it believes that one area of instructional program improvement has overriding importance in American education today and therefore should be given special emphasis. This area is the equalization of educational opportunity for students such as the bilingual, those affected by negative sex stereotyping, the handicapped, the disadvantaged, the geographically isolated, and those whose cultural heritage is often neglected in

predominant courses of study.

The Committee notes that the policy will cause the Institute, and institutions working on instructional program improvement with NIE support, to reassess plans for such work. Those institutions, specifically the university-based research and development centers and regional educational laboratories, have many capabilities which should be brought to bear on the priorities emphasized in this policy and the Director is urged to help those institutions develop plans accordingly. It is not the intent of the Committee that this policy diminish the Institute's efforts to carry out provisions of Council Resolution 18, particularly "to ensure, insofar as possible, that existing regional laboratories and centers be strong, established parts of the research, development, and dissemination system of the nation." Attention should be given to the current capabilities of those institutions for conducting research and for providing assistance to appropriate educational agencies and institutions in the improvement of instructional programs.

Research of two kinds is needed: (1) further investigation into the theoretical foundations upon which much of education today is based (i.e., the teaching of different kinds of subject matter), and upon which solutions to problems being encountered may be developed; and (2) longitudinal research following the development of new instructional programs to find out what happens as a result of their use that would not have happened otherwise, and whether such results are as beneficial as anticipated. There are numerous additional research activities of a fundamental nature that may contribute to the improvement of instruction.

The Committee also notes that among the great number of lay groups, educators, and professional organizations it has heard from, there has been strong support for assistance by the Institute to appropriate educational agencies and institutions for the purpose of improving instructional programs. It is also true, the Committee believes, that a great deal of professional experience, knowledge, and expertise which most local schools do not have are needed in the development of good instructional programs. It is hoped that the policy which the Committee recommends will encourage a considerable increase in cooperation between the research community and practitioners in the field.

* NOTE: This report was prepared to guide the Council in its deliberation on the Instructional Program Improvement Policy, adopted March 18, 1977.

Analysis and Summary of Task Force Findings

Introduction

In this section we report the Task Force's most relevant policy analyses. Much of what follows is excerpted directly from the Director's report of those analyses. The Task Force borrowed a medical analogy to organize its analyses: *Analysis* yields *Diagnosis* which leads to *Prescription*. In the *Conclusion*, the Task Force looked to the major implications of the foregoing which, in its judgment, were most salient to the formulation of NIE policy. The analysis section was further divided into several major subsections: roles in curriculum development, conceptions of curriculum, approaches to educational improvement, and estimates of resources required for instructional program improvement. Within each of these sections the Task Force indicated, where appropriate, major lines of convergence-divergence, prominent value orientations which underlie positions and arguments, and some persistent dilemmas of curriculum development and decisionmaking.

Analysis

Roles in Curriculum Development: The Task Force noted in an earlier report (1976, p. 3) that, ". . . concern for 'who should make curricular decisions?' appears now to take priority over the question 'what shall be taught?' " This conclusion stands. The greatest volume of discussion centers on the questions of who can, wants to, and should conduct curriculum activities, accompanied by claims about who is currently so engaged. This section begins with a discussion of these questions to reflect their importance today, and to introduce the cast of characters involved in the drama of educational improvement. The order of introduction is arbitrary and does not covertly signal "importance."

Federal Agencies: A major source of dispute centers on the proper Federal Role in curriculum activities. Proponents of a strong role claim that Federal leadership is needed:

1. To address matters of clear national interest. For example, the National Science Foundation (NSF) initially conceived its course content improvement projects as a necessary element of the national defense, and as a means of supplying skilled manpower to our economy. If the United States is to maintain scientific and technological superiority, the argument ran, math and science programs in the nation's schools must be up-to-date and superior in quality.
2. To pursue national goals. For example, the legislation creating NIE establishes equality of educational opportunity for all children as a major goal of the Institute. Insofar as instructional program development is an effective means of realizing this goal, NIE is justified in sponsoring such development.
3. To provide a wide array of instructional materials for a rapidly changing, pluralistic society. A number of participants at our national conference argued for Federal sponsorship of curriculum development to provide (1) a multiplicity of programs varying in methods, goals, and subject matter from which states and localities might choose, and/or (2) programs which accommodate the diversity in subcultures.
4. To meet minority needs. This is especially critical when the market for materials is too small to justify a commercial investment. One such case involves members of minority groups. For example, a number of Native-American groups (e.g., the Nez Perce Tribe, the Shoshone-Bannock Tribes, the Idaho Inter-Tribal Policy Board, and the Sahaptin River Tribes Consortium) argued strongly at the Portland Public Meeting for Federal support of community-based, multicultural curricula. Another case may be in subject areas such as aesthetic education where the materials market may be small, but is not confined to a particular minority group.
5. To upgrade the content of instructional programs on the basis of advances in knowledge. This rationale, proposed by Tom Green (1976, pp. 4-9) (Syracuse University) among others, also underlay the work of NSF and can be extended beyond mathematics and science content to other fields and disciplines.
6. To provide coordination among the various agencies who sponsor and conduct curriculum activities. Some argue that a serious impediment to educational reform and renewal is the inadequacy of coordination and communication among levels of government, often leading to duplications and gaps, cross-purposes, and so on. The Federal Government is in the best position to coordinate activities between the various levels of government. Many State and local spokesmen have called for such assistance, cautioning only that "coordination" not involve regulation and control.
7. To supply the high quality instructional materials not produced by the publishing industry and/or to induce the publishing industry to produce better quality materials. This argument rests on two assumptions, that current instructional materials are generally *not* of the highest quality, and that the major source of instructional materials, the publishing industry, lacks incentive to improve. Jerrold Zacharias of the Education Development Center, for example, judges that many materials, especially tests, are of low quality today (letter to NIE Curriculum Development Task Force, January 14, 1977, p. 10). While he argues for direct Federal intervention, others prefer indirect Federal intervention in the form of incentives to publishers.
8. To stimulate innovation and risk-taking. Some argue that only the Federal Government can afford—politically and financially—to sponsor innovative programs and practices. Without such sponsorship, many creative, promising ideas would go undeveloped and untested. Peter Dow (Education Development Center) makes this case in a memo to the Task Force: ". . . innovation is almost never cost-effective in the short-run. It involves a high degree of risk and a disproportionate degree of failure . . . the only real hope for innovation in education is through government subsidy" (Memo to NIE Curriculum Development Task Force, December 6, 1976, p. 2).

These appear to be sound arguments, based on conceptions of what the Federal Government's role has been, what it should be, and

what Federal sponsorship alone can accomplish But other observers—those with contrasting views on the same topics—offer what appear to be equally sound arguments against a strong Federal role. These analysts, like those on the other side of the issue, are not of one voice: some would prefer to eliminate Federal activity entirely, others to restrict Federal involvement in various ways. All in all, though, they argue that limiting Federal involvement is necessary:

1. To promote local control and priority-setting. The Federal Government, some contend, is too remote to respond adequately to local needs, problems, and priorities. Among others, the Curriculum Committee of the National Association of Secondary School Principals expressed this point, arguing that the need for flexible, immediate response to local problems is not well-served by Federal initiatives designed to alleviate last year's problems. Others make this argument from the standpoint of right rather than of pragmatism. Several parents at our conference claimed that Federally-sponsored curriculum development has often resulted in the imposition of "elite" values on local communities, and that such imposition is an unconstitutional denial of freedom.
2. To return control of education to the States. Education is of course a State responsibility under the Constitution. Past Federal curriculum reform efforts, this argument goes, have bypassed the States, prompting calls either for cessation of Federal curriculum reform, or for Federal-State partnerships. Joseph Cronin, Illinois State Superintendent of Education, draws attention to this issue with the rhetorical question, "Should the junior partner (i.e., the Federal Government) take over the firm?" (Cronin, 1976a.)
3. To reduce control over educational reform by elite groups with special influence over Federal curriculum efforts. Federally-sponsored curriculum development, this argument runs, fails to serve the public interest because certain individuals and special interests control the Federal agenda, consistently biasing reform efforts in favor of certain social and ethical values touching both public and private morality. Donald Barr, headmaster of the Hackley School, argued this point strongly in his paper (Barr, 1976).
4. To reduce financial inequities based on larger school districts' skills in obtaining Federal funds. Savvy "grantsmen" are generally available only to larger school districts who can afford them, and so, the old story, the rich get richer. We heard this argument from a number of teachers and administrators, notably at meetings sponsored by the International Reading Association and the National Association of Elementary School Principals.
5. To reduce the fickle pursuit of fads and instant panaceas which have diverted educators in recent years from a proper emphasis on academic excellence. Proponents of this view, such as LITE ("Let's Improve Today's Education," an Arizona parents' group) point an accusing finger at the Federal Government, which they see as the chief source of the fads and frills wrapped in Federal dollars which distort local priorities.
6. To allow free market solutions to problems of supply/demand in the instructional program area. Publishers argue against government intervention on the grounds that the publishing industry is responsive to consumer demands, that Federally-sponsored programs frequently enjoy an unfair competitive advantage, and that the infusion of Federal dollars in implementation and other activities distorts consumer demands.
7. To reduce inefficiency, waste, and duplication. James Squire (1976, p. 10) (Ginn and Company), for example, indicated in his paper that NIE development efforts tend to duplicate what is already underway elsewhere.

In sum, opponents of Federal involvement in curriculum activities argue first that such involvement transgresses the division of power established by the Constitution, and second that the detrimental effects of Federal initiative—whether in the name of equality, defense, or protection of minorities—outweigh the advantages. We note, though, that disagreements over the Federal role concern ends as well as means. Both proponents and opponents of the Federal role value equality, but proponents justify Federal in-

volvement in pursuit of this value, while opponents tend to caution against Federal involvement as it curtails another cherished value: liberty. At the same time, the two sides debate the efficacy of Federal curriculum activity as a means for realizing these goals, particularly that of equality of educational opportunity.

The Publishing Industry: At the center of curriculum development conceived as the production of instructional materials for teachers and students is the publishing industry, composed of some 150 companies. The elementary-secondary market is variously characterized as fragmented and highly competitive, or as concentrated in the hands of large companies who compete with one another. (In 1975, seven firms had approximately 60 percent of total industry revenues) (Wirt and Quick, 1976, p. 32). About two matters, though, there is little disagreement: Publishers supply the great bulk of materials used in schools, and instructional materials, especially textbooks, structure most classroom activity. Kenneth Komoski (Educational Products Information Exchange) estimates that 95 percent of all classroom time involves use of textbooks (Komoski, 1976, p. 1).

As we have seen, claims about the quality of commercially produced materials and about publishers' capabilities are central to the debate over the Federal role. If publishers can and want to produce high quality materials and if they well serve the needs of diverse populations, this seriously vitiates the argument for a Federal role in instructional program development. Consequently, arguments for a Federal Role in this area generally include assertions about publishers' capabilities. In particular, some have indicated the following constraints as limiting what publishers are capable of producing:

- Market demands, articulated through mechanisms such as State textbook adoption boards, conduce to the production of bland, inoffensive, widely acceptable materials. Of the 22 States with textbook adoption boards, two—Texas and California—exert disproportionate influence owing to the size of the market in those States. The result, some claim, is a uniform curriculum. Because publishers can generally afford to produce only one version of materials, "Maine must buy what Texas wants." This tendency, notes Arnold Grobman, Chancellor of the University of Missouri, St. Louis, is most marked in courses of significant social and political content (Grobman, 1976, p. 6).

- Insufficient risk capital prevents investments in development of innovative programs by all but the largest publishers. The publishing industry operates on a low profit margin, relative to other industries. Consequently, publishers are wary of investing in innovations if they are unlikely to recover the initial, heavy costs of development.
- Publishers, some contend, can't afford the extensive research, field-based development, and careful evaluation which is the essence of high quality curriculum development. Products *and* developmental processes lack important hallmarks of quality, claim Richard Schutz (1976, pp. 8-9) (Southwest Regional Education Laboratory) and others.
- As we have noted, publishers also cannot supply materials under circumstances where costs of development exceed profits available where demand is limited.

Not all agree with the foregoing analysis of publishers' capabilities. We cite the judgment of Lawrence Fish and his staff at the Northwest Regional Education Laboratory, for example, that, "Publishers have done a commendable job in preparing basic large-volume materials" (Fish, 1976, p. 4). Others point out that, because publishers are responsive to the market, they are not prone to invest in and promote fads. What some label timidity and conservatism others call sound judgment; one man's innovation, it appears, is another man's fad. Furthermore, if the market for a new program is substantial, publishers can and have invested in carefully sequenced, thoroughly evaluated development. Perhaps, though, the problem may not be who can do the job, but the job itself. Wilbur Schramm years ago had this to say (only partly facetiously) about textbook publishing:

> Technologically, the problem is to produce a teaching tool, usually within the restrictions of the printing process, which will offer the maximum of guidance to those who need it, the maximum of freedom to those who can use it, the utmost in learning ease to slower students, the utmost in challenge to swifter ones, and withal maintain a delicate balance between conservatism and change (Schramm, 1955, p. 129).

Another series of claims focuses on the supply rather than the production side of the publishing industry. Decker Walker of Stanford University notes in his paper that the packaging, marketing, and distributing of materials for schools throughout the country requires a nationwide business organization, and that publishers have such organizations already established and operating (Walker, 1976a, p. 14). Along these same lines Lawrence Senesh (1976, p. 7) (University of Colorado) suggests that publishing company salesmen are the most important link between innovators and teachers.

What are the policy implications of these various claims about publishers' capabilities? Some serve to justify Federal sponsorship of instructional program development with arrangements to market the products commercially. Others, though, suggest that the government should provide incentives for publishers to develop limited market and innovative materials, while State representatives (e.g., the Council of Chief State School Officers, and the Education Commission of the States) argue for strengthening State capacity to disseminate new materials. We end this section by proffering yet another opinion:

> The case for for-profit supply is strong where the good or service in question is easily evaluated by consumers, and there is considerable competition among suppliers. Where these conditions do not hold there is good reason to adopt regimes of supply organization that can internalize, to some extent, the demanders' interests—governmental or not-for-profit forms . . . (Nelson, 1976, p. 397).

The optimum relationship between the Federal Government and the publishing industry is clearly a matter of dispute, with no evident basis for consensus.

Teachers and Other Professionals at the Local Level: On one point at least, people express near-unanimous agreement: the importance of the teacher in the educational process. While good instructional materials may facilitate good teaching, in the absence of good teaching, good materials alone are of little use. Everyone preaches the gospel of teacher involvement in curriculum development, but a little probing reveals that what people mean depends on how one defines "involvement" and "curriculum development."

At present, the teacher's typical mode of involvement in "curriculum development" is to

select and adapt instructional materials for use in his/her particular classroom. The process of adapting materials fashioned elsewhere has not been studied or defined carefully, but probably covers everything from creating a unique, innovative program out of bits and pieces of many prepackaged materials to leading students step-by-step through a textbook in accordance with the teachers' manual. While some (notably David Hawkins [1976] [University of Colorado] in his paper and Lillian Weber [City College of New York] at the Task force's conference) argued that teachers should have a more active role in creating materials, most discussions centered on teacher capabilities in developing and adapting materials. The prominent views:

- Individual teachers working on their own can no longer produce materials of comparable quality to those developed by specialists whose training and experience provide them with the necessary competencies. Decker Walker (1976a, p. 19), Samuel Postlethwait (1976, p. 2) (Purdue University), and Richard Schutz (1976, pp. 13-14) each made this point.
- A second major class of factors relates to the conditions under which teachers work. Larry Cuban (1976, p. 62), citing the recent work of Daniel Lortie, pointed out two major constraints which affect teacher capabilities: Teachers must work with "*draftees*" present by law, not volition, and they must teach *groups*, not individuals. Samuel Postlethwait (1976, pp. 3-5) added two further characteristics of teaching as a profession: the lack of incentives to improve or to innovate (promotion usually means leaving the profession) and the lack of support services or resources (teachers are the most isolated of all professionals).
- A third perceived source of teachers' shortcomings as curriculum developers locates the problem in the prevailing mode of teacher training and support. This claim asserts that "the system" produces trained incapacities. In particular, the dominant mode of curriculum reform in the sixties taught teachers to rely on prepackaged wisdom. "Teachers will be most helped," writes David Hawkins, "not by being given highly detailed specific curricula to follow but rather by being given help in developing wider repertoires, alternative ways of adapting the generic curriculum" (1976, p. 7).

Discussion of the teacher's role in curriculum development leads most often to recommendations to improve teacher training and staff development and to involve teachers in development. By this second recommendation, though, some refer to improvement of teachers' abilities to identify, select, and adapt materials developed elsewhere, while others want to involve teachers in the design, creation, and iterative trial of materials. We further distinguish the practice of involving *some* teachers in the production of materials for mass distribution (an aspect of many large-scale centralized development efforts), from the principle of involving teachers in materials development because such involvement improves their teaching and expands their competencies. To put this principle into practice generally requires some form of indigenous, site-specific development. To reiterate, how one involves teachers in curriculum development depends on one's conception of "involvement," "curriculum," and "curriculum development," subjects we address more thoroughly in the next section.

- Teachers ordinarily do not have sufficient experience to develop teaching strategies, to judge student readiness, and to adjust and adapt materials to local needs. Teachers tend to follow in rote fashion the teacher's guide. Lawrence Senesh (1976, p. 5) stressed these assessments in his paper and at the conference.
- Teachers often do not have adequate command of the subject matter they teach, a point made by Robert Davis (University of Illinois) and Frank Chase (Dallas Independent School District) among others (Report of the NIE Curriculum Development Conference, 1976, p. 22. Hereafter referred to as "Report").
- Teachers tend not to experiment actively with new methods, procedures, and subjects. Innovations fail at the classroom door, suggested Larry Cuban (1976, pp. 62-29) (Superintendent, Arlington, Virginia, School District) in his paper.
- Teachers cannot judge, and do not demand, diverse, innovative, and high quality instructional materials, claimed Lauren Resnick (1976, p. 6) (Learning

Research and Development Center) in her paper.

Response to these indictments of teacher capabilities took several forms. People at many of the meetings claimed that teachers excel at adapting materials for use with particular children; this is their forte and the primary reason for involving teachers in creation of materials. They understand what "works" with particular children. Teachers do resist *imposed* change, though, claimed David Darland of the National Education Association, suggesting that past attempts to implement innovative materials have been heavy-handed ("Report," 1976, p. 23). In her version of the conference proceedings, Nel Noddings suggested that teacher participation in curriculum development is best considered a variable, dependent on the attributes (e.g., enthusiasm, energy, creativity) of individual teachers, and on competencies which can be developed ("Report," 1976, p. 23). Her point leads to another major response which is to locate the reasons why teachers lack certain competencies. Among the reasons given:

- Inadequate pre- and in-service teacher training. Judgments here include Madeline Hunter's (University Elementary School, UCLA) claim that, "Teacher education is hopelessly obsolete and nonfunctional" (Hunter, 1976, p. 10), as well as similar but less harsh assessments by Lawrence Senesh (1976, p. 10), Elton Hocking (1976, p. 5) (Professor Emeritus, Purdue University), and David Hawkins (1976, p. 7).

While the Task Force's data contain less discussion of the role of other professionals at the local level, numerous sources in the literature point to the importance of school principals and district superintendents in promoting educational improvement (e.g., Carlson, 1965; House, 1974). The principals we spoke with at the National Association of Secondary School Principals meeting emphasized this point: Dynamic local administrators are critical change agents, and without their support and cooperation little curriculum reform is possible. In particular, local administrators are judged to play key roles in staff development—so important during a period of little staff turnover—and in mediating conflict between the staff and the public. On this latter point, a dispute centers on the extent to which administrators respond to public demand or shield staff from public opinion. William Boyd (1976a, p. 28) (University of Rochester) describes a zone of tolerance within which administrators can freely operate, but beyond which they become vulnerable. Others, especially participants at the National Conference on Parent Involvement, have charged that administrators are gatekeepers who use the claim of professional competence to exclude parents from real participation in decisionmaking. We suspect that administrators, like teachers, vary in the extent to which they value and solicit community involvement.

State and Regional Agencies: A recent trend in education has been the increase in activity at the State level. One stimulus for such growth has been the creation of Federal programs administered by the States accompanied by Federal funds channeled through the States. Moreover, State legislatures have become increasingly active, as have State judiciaries. New laws and court rulings, as Tyll van Geel (1976) (University of Rochester) documents in his paper, have had a major impact on the school curriculum. For example, many States are specifying competencies necessary for graduation; others are instituting State-wide testing systems; and still others mandate parent involvement as a condition for both categorical and block grants. As the Task Force learned from its meeting with the Education Commission of the States and from Joseph Cronin's paper, the States clearly want a more active role in education, and we expect this trend to continue.

State spokesmen generally stake a claim for certain curriculum-related activities, and often request that NIE provide various types of support and assistance for State-initiated activity. In particular, States have become more active in goal-setting and needs assessment, dissemination activities, and evaluation. Few State initiatives in the development of materials came to the Task Force's attention, and there is reason to believe that the textbook adoption board is the major State mechanism for controlling the school program. Cronin (1976b), citing the work of Goodlad, also recommends that State-sponsored intermediate service agencies are a growing and valuable addition to the network of educational support agencies. County and regional institutions have the advantage of

being closely in touch with district needs and priorities, while possessing sufficient resources and flexibility to offer unique services to teachers and administrators.

Some observers regard this increased State activity as a mixed blessing. Local teachers and administrators are wary of any regulation, whether from State or Federal government. Social studies teachers in New Mexico and mathematics teachers in Florida expressed to the Task Force some dismay at laws passed by State legislatures, and recommended that NIE might sponsor activities to enlighten State lawmakers, who they claim often lack adequate knowledge of education and who often give too little serious thought to the consequences of the laws they pass.

Regional Education Laboratories, Centers, and Other Special Institutions. Regional Education Laboratories, university-based research and development centers, and private nonprofit institutions such as the Biological Sciences Curriculum Study base their claims to conduct curriculum development on possession of a critical mass of experts having the requisite technical skills. Such claims are also based on a particular approach to curriculum development (although differences exist among such institutions) which is purported to have the following advantages (proposed, not surprisingly, by educators who have been or who are associated with such institutions, e.g., Richard Schutz, Lawrence Fish, Lauren Resnick, and Arnold Grobman):

- The functions of research, development, dissemination, and implementation are properly interrelated and coordinated;
- Materials produced are theory-based, and carefully designed, tested, refined, and evaluated;
- Institutions such as Regional Laboratories are in touch with local and State educators and can be maximally responsive to their curriculum needs and problems.

As with claims made in favor of other interests, counter-claimants take their turn here too. The Task Force has heard, for instance, that Federally-supported Regional Labs and other institutions competing for government contracts represent a vested interest in curriculum reform and therefore will continue to press for support of more development regardless of whether or not such development is in the public interest. There is a dual animus for this argument: some, such as George Archibald (a conference participant and former aide to Representative John Conlan) desire to limit or eliminate the Federal role in curriculum development; others who support this view wish to shift Federal priorities from development to other R&D activities. A second argument against this claim to special expertise holds that products developed by "experts" are not significantly better than what publishers are capable of developing and do not justify the outlay of public monies.

Parents and Other Lay Involvement. As in the case of teachers, almost no one today disputes the proposition that, "Parents ought to be involved in curriculum development." This theme emerged clearly in each of the public meetings, and was as often expressed by "professionals" as by laypersons. We suspect, however, that this widely-expressed egalitarian affirmation conceals serious differences between lay and professional groups on the nature and extent of this involvement. As "participation" shades into "control," professional educators become restive, while less significant involvement leads to parental frustration.

Parental involvement today appears to have two faces. Many signs point to the renewed growth and vigor of parental involvement in schools. To an extent, Federal and State legislative mandates have stimulated this growth (e.g., Title I, Headstart, Early Childhood Education in California, recent provisions of legislation in New Jersey, etc.). The use of parent volunteers also is burgeoning (the first issue of the *School Volunteer*, newsletter of the National School Volunteer Program, estimates 2,271,000 volunteers in education based on a 1974 Current Population Survey, an ongoing U.S. Census Bureau activity (1976 p.5). And the proliferation of local, indigenous parent groups (as evidenced by the National Committee for Citizens in Education's expanding network of more than 150 such groups) marks renewed parental concern over such issues as basic education, bilingualism, citizenship education, etc. Yet, at the same time, the perceived erosion of local control creates suspicion and mistrust of State and Federal

initiatives (a theme sounded at our national conference by James Mecklenburger of the National School Boards Association, as well as by several parents).

The picture today is indeed cloudy. Many commentators have remarked the growth of Federal influence over education in the last decade. We have just noted the more recent growth of State control, and now we suggest that local, community involvement is on the rise. Can everybody's power be expanding? William Boyd (1976b) suggests a resolution to this apparent contradiction by noting that the balance of power in education is variable, depending on such factors as the type of community, the type of issue, and the nature of sanctions rewards which each group wields.

Task Force discussions with lay groups revealed two broad explanations for the lack of even greater parental involvement. Some parents stressed that the century-long process of bureaucratization, professionalization, and centralization in the public schools has produced closed institutions which do not permit, much less encourage, parental involvement. Others, however, noted that involvement in education is one of many claims to parents' time. Most parents, they claimed, do not wish to be actively involved and, at any rate, lack skills and knowledge to participate genuinely in school-wide decision-making or in daily classroom activities.

These assessments probably are related: because educators for years have excluded rather than encouraged parents, many parents now lack both the inclination and knowledge about opportunities to participate; conversely, parent "apathy" convinces educators that parents have little desire to be involved. These tendencies historically have reinforced one another.

While we have spoken here quite generally about parent involvement, this discussion has specific implications for curriculum development. Spokesmen for parent involvement [e.g., the National Committee for Citizens in Education, participants at the first National Conference on Parent Involvement, the National School Volunteer Program, the National Coalition of Title I Parents, etc.] are unanimous in calling for the sponsorship of such activities as the development of programs to train parents, teachers, and administrators to work together in mutually reinforcing ways; provision of such training; research on the effects of parent involvement, etc.

Some General Comments on Educational Governance. A number of commentators—Decker Walker and William Boyd among our commissioned writers—have identified the "chaotic state of educational governance" as a major problem today. In the face of declining enrollments and shrinking funds, most groups have escalated their demands, each claiming a special legitimacy. Competition for scarce resources is pronounced, with no resource buffers and no institutional mechanisms to mediate and resolve conflict. The Task Force noted in its first report that *all* groups perceive that someone else controls the action; consequently, each special interest tends to press its claims vociferously, convinced that a vigorous and uncompromising stance is called for if it is to emerge with anything. This present day context exacerbates what Elliot Eisner has referred to elsewhere as "persistent dilemmas of curriculum reform."

Among such intertwined dilemmas confronting the Federal Government today, we note the following:

- The requirement to provide local communities with opportunities for determining what shall be taught to their children, and, at the same time, to draw on the skills and knowledge of social scientists, curriculum specialists, and educational scholars in building educational programs. This is the Dilemma of Involvement.
- The need to be responsive to a wide array of constituencies yet, at the same time, to chart a stable course for education, free from swings of public opinion and the fads promoted by professional reformers. This is the Dilemma of Stable Purposes.
- The necessity of achieving cooperation in the pursuit of national goals articulated by legitimate and representative bodies such as the Congress in the face of local priorities and goals which often conflict with such national goals. This is the Dilemma of Shared Purposes.
- The need to develop means for appropriately involving and striking a balance among all the claimants to a legitimate role in curriculum decision-making. Listen to their voices: "I know how to develop . . ."; "I know how to teach

this group of kids"; "I know what sells"; "I know my child . . ."; this is the Dilemma of Relevant Expertise.

- The need to respond to demands that Federal education agencies vigorously pursue national goals, while remaining within the limits established by our tradition of local control and by the Constitutional basis for education as a State responsibility. This is the Dilemma of Leadership.

Conceptions of the School Curriculum

Conceptual Issues

We mentioned earlier that problems of definition plague curriculum discourse, and we intend here to address the more prominent of these problems, which condition answers to such questions as, "How should curricula be developed?", "Who should conduct curriculum development?", "What resources are needed?", and "What should be NIE's role in curriculum development?"

Sages through the ages have written volumes about curriculum, laying distinctions atop distinctions. We select only three issues here, though, each of which has a venerable history but is paramount in current controversies over the school program.

The first of these issues involves the meaning of the term, "curriculum." For some, curriculum refers to course content usually expressed as subjects or topics to be covered, and/or the intended outcomes of instruction. Others consider curriculum to be instructional materials used by teachers and students: the curriculum is an object or a product. Still others, in the Deweyan tradition, equate curriculum with experiences or opportunities for experiences, conceived in a number of ways: intended learning experiences or all experiences (intended and unintended) in the classroom or in the school or, finally, across all settings and throughout one's life. As this concept expands, the distinctions between curriculum and instruction, then curriculum and schooling, and finally curriculum and education progressively blur. Note also that curriculum conceived as experience is a process, not a product.

Proponents of one or another of these conceptions express no mere semantic preference, but deep ideological commitments to particular philosophies of education. To oversimplify the complex interaction between ideas, attitudes, and action, those who conceive curriculum as a product are likely to consider improving that product to be an optimal means of improving education. Those who conceive curriculum as a process involving idiosyncratic interactions between individuals are likely to seek means of improving such processes, on the assumption that such improvements are as much a matter of craft or art as of science. As stated, of course, each position is a stereotype expressing an extreme orientation, and many development efforts transcend the distinction (e.g., as Nel Noddings suggests, curriculum as product, then process can be conceived as stages of development ["Report," 1976, p. 31]). Nevertheless, educators differ markedly in their orientations to such an issue, with important consequences, as we shall see, for their approach to development.

Likewise, one's definition of curriculum has implications for the settings to which one directs attention. Today the conviction grows that, as Ralph Tyler, Lawrence Cremin, James Coleman, Urie Bronfenbrenner, and other notable scholars have it, "education is broader than schooling." As a society, we have yet to fully explore the policy implications of this viewpoint for such institutions as the school, the family, the workplace, the mass media, and the community, but the harbingers of such an exploration are increasing. [For example, see such recent reports as *Toward a National Policy for Children and Families* [1976], *Youth: Transition to Adulthood* [1974], *The Boundless Resource* [1975], *The Reform of Secondary Education* [1973], and the "Report of the National Panel on High Schools and Adolescent Education" [1974].]

Should NIE embrace such a broad conception of curriculum, and by implication broaden its scope to include R&D related to institutions other than the school?

Some argue that NIE, with its limited budget and legislative mandate, must focus on schooling. To attempt to influence education in nonschool settings would fruitlessly dissipate already scarce resources. There are, after all, other Federal, State, and local agencies to address problems related to the family, the mass media, and so on. Others, however, see the lack of a concerted, well-coordinated approach to social reform as the chief impedi-

ment to gaining headway on a host of social problems. Most social problems are highly complex, and multidetermined so that piecemeal, small-scale interventions in particular social settors (e.g., the school) are not likely to help.

The point to be made is that any recommendations about "the curriculum" or about "curriculum development" must be made in light of a conception of curriculum which quickly leads to such fundamental matters as one's philosophy of teaching, notions of learning, anticipations of social change, and the like.

A second major issue, one hotly debated at our conference, is uses on the relationship between school and society. Some argue that education must lead society, stimulate desirable social change, and prepare students for a changed and changing society. Peter Dow used the term "subversion" to indicate that schools must promote value change. Paul Brandwein (Harcourt, Brace, Jovanovich) in his paper defined curriculum as, "... in a sense, the forcing of social change through technological change" (Brandwein, 1976, p. 2). Others expressed, equally vehemently, the opposing view that education's purpose is to conserve and transmit the tried and accepted values of the existing society. "We don't want our children programmed for social change in our schools, with our money," asserted Judy Almquist, a parent attending the conference ("Report," 1976, Appendix C). As Nel Noddings noted in the conference proceedings, this conflict is so basic, and provokes such deep feelings, that no resolution may be possible.

A third major issue concerns the question of uniformity or diversity in school curricula. One recommendation we have heard more than all others is that, "the Federal Government should promote diversity." However, what that means is not clear and depends on the meaning of "diversity." (Nel Noddings located five such meanings in use at the conference.) Some who use the term refer to a desirable diversity in educational materials which have similar goals but which embody competing theories and methods (e.g., bilingual and multicultural education). And still others refer to curricula which expand options for students (one goal of the social science programs which Lawrence Senesh has developed).

While the Task Force has heard many calls for diversity, some have used the term in yet another way and have argued against this type of diversity. A major concern expressed by teachers and administrators alike is that the curriculum is over-crowded, covering too much. Teachers are required to pursue so many objectives and cover so many content areas, that there is insufficient time to devote to any goals. In this sense, the curriculum is too diverse.

Particularly in the basic skills, uniformity —conceived as outcomes of education to which all schools should devote significant time—is widely desired. Harry Broudy (University of Illinois) provided the note on which to end discussion of this issue, when he called for curricula to "unify the diversity" ("Report," 1976, p. 20).

Characteristics of the School Curriculum

Much of the testimony the Task Force has heard concerns characteristics of the school curriculum today. About some things there is consensus. The textbook still dominates instruction, and publishers supply the bulk of textbooks. About other questions there is less consensus. How much has the curriculum changed over time? Is the curriculum uniform or diverse? Has the curriculum led or followed society? Is the school curriculum today of high quality? We will deal briefly with each of these questions in turn.

Concerning the question of curriculum stability over time, most conferees concurred with Larry Cuban's idea that the answer depends on the level of change stability you choose to analyze. Cuban notes in his paper that broad social, economic, and political trends and events do influence curriculum, that schools are vulnerable to change. "As waves of social change sweep across schools, each leaves a curricular residue ..." (Cuban, 1976, p. 27). However, he ultimately concludes that schools have exhibited a puzzling "structural continuity" over time: the basic arrangement of the classroom which structures the relationship between teacher and students has changed little over the past century. The bottom line, then, is that while reforms are frequently initiated and widely discussed, they are less often implemented, and rarely institutionalized. Stability, not change, is the overriding feature of the school curriculum. This conclusion is further sub-

stantiated by Boyd's [1976a, pp. 25-48] detailed political analysis of the constraints on innovation, and by Raymond English's [1978, pp. 6-7] [Educational Research Council of America] list of ten obstacles to curriculum reform.

The above assessments generally rely on a broad conception of curriculum [e.g., Cuban [1976, p. 2] defines curriculum as, "... intentional experiences within the school planned for students."]. Those who claim significant success for curriculum reform [e.g., Ron Brandt [Lincoln, Nebraska, Public Schools], Richard Schutz, and Arnold Grobman among others] generally have a more restricted definition of curriculum in mind. For instance, Wirt and Quick's [1976] [the Rand Corporation] forthcoming study demonstrates that the NSF-sponsored BSCS materials led to major revisions in the content of biology textbooks. Others argue that the past decade has witnessed a revolution in elementary and secondary science teaching based on such NSF-sponsored curriculum projects as the Physical Sciences Study Committee, the Science Curriculum Improvement Study, the Elementary Science Study, the Chemical Bond Approach Project, and Science: A Process Approach. Those who make such claims usually conceive curriculum as a product [i.e., student and teacher materials]; others argue, however, that the NSF-sponsored science projects also influenced the process of science instruction, involving as they did hands-on experience as a major element.

We reviewed above the arguments about the desirability of a uniform or diverse curriculum. But what in fact characterizes the school curriculum today? There is a dearth of evidence on the subject, but Wirt and Quick's [1976, p. 47] review of existing data leads them to conclude that, "... the actual curriculum in American Schools is highly uniform from school to school. ..." They note for instance, that at the elementary level approximately two-thirds of the schoolday is spent on reading and mathematics. However, they also note the extreme "diversity" in subject areas coverage at the secondary level, a problem mentioned by many teachers and ad-

ministrators, and the principal evidence for "diversity." As further evidence of regularity he points out that:

- Courses are taught at standard grade levels.
- "... fewer than 10 percent of all textbooks on the market in a given subject area are used by more than 50 percent of teachers in that subject area" (Wirt and Quick, 1976, p. 61).
- Standard content is emphasized within subject areas.
- "... the verbal information level of cognitive functioning is much more strongly emphasized than are major skills, intellectual skills, and cognitive strategies" (Wirt and Quick, 1976, p. 69).

The evidence supplied in favor of the thesis that the U.S. curriculum is both uniform and stable suggests the answer to the third question we initially posed: the curriculum in fact conforms to broad social norms and standards, and is not a secret agent for social change. While the Task Force encountered little testimony to the effect that curriculum is a powerful agent of social change, various scholars have made such a case (see the recent literature review "Toward Comprehension of Curricular Realities" (1976b) by Decker Walker for further discussion), and we cite only one such study: Inkeles and Smith (1975) studied the impact of various institutions on what they called "attitudinal modernization" in six developing countries. They found schooling to be the most powerful influence, followed by factory experience. Interestingly, though, they concluded that factors related to the social organization of the school (what some call "the hidden curriculum") were more potent influences than formal instruction in academic subjects.

Finally, as you might expect, the Task Force found considerable divergence of opinion over the quality of the school curriculum, which in turn influences opinions about the extent of reform deemed necessary. At one extreme, radical critics such as Ivan Illich (1970) argue that society must be "de-schooled," that the very institution of compulsory, public school is pernicious to social and individual welfare. Somewhat less extreme is the view that, "... the entire curriculum K-12 should be restructured," proposed in a letter from Roger Van Bever (letter to NIE Curriculum Development Task Force, December 21, 1976), a Detroit supervisor of elementary science. Jerrold Zacharias also painted a bleak picture of the current school curriculum, with special emphasis on the detrimental effects which tests have on learning; he too sees the need for major curriculum reform (Zacharias, letter to NIE Curriculum Development Task Force, January 14, 1977).

Others, such as Ralph Tyler (1976, p. 3) (Science Research Associates), argue that we should identify specific deficiencies in the outcomes of schooling, using National Assessment, Project Talent, and similar data, then remedy those deficiencies through selective development efforts. A fourth major position suggests that we need only to stress certain subjects (e.g., basic skills) and eliminate other emphases (e.g., "psycho-social development") to improve the curriculum. Donald Barr and Robert Segura (Sacramento State University) among others expressed this viewpoint at the Task Force conference. Finally, some are generally satisfied with the school curriculum, but in light of publicity over declining test scores, this is a minority view. The most recent Gallup Poll noted a marked increase in the number of persons sampled who cite a poor curriculum as a major problem confronting the public schools (Gallup, 1976, p. 188).

Approaches to Educational Improvement

Another basic philosophical difference underlying curriculum discourse concerns attitude toward change. Arnold Grobman (1976, p. 4) asserts that, "Curriculum revision is a never-ending process," while Donald Barr (1976, pp. 24-28) cautions against innovation for the sake of innovation. A middle-ground position calls for curriculum revision as the need arises. In the following discussion, then, which weighs the merits of various change strategies, we draw attention to the assumption that because change is inevitable, the active promotion of change is desirable. By no means does everyone assent to this proposition.

Change Strategies Other Than Curriculum Development

Ideally our powers of analysis would be so acute, and our technology so advanced, that for any educational problem we could prescribe just the right cure. As it is, debates about means claim equal time with debates

Table 3.1

RECOMMENDED ROLES FOR NIE IN SPONSORING DEVELOPMENT OF NEW CURRICULA

(Responses to "Guides for Public Discussion:" Question #2: "Should NIE Develop New Curricula?")

each cell shows:	
(raw no.)	row % / column %

Recommended Role for NIE in Curriculum Development

Type of Respondent		Number of Respondents Who Answered This Question	Nothing	Stimulate Others to Develop Curricula	Create New Approaches to Curriculum Development	Create New Examples (Illustrative Parts of New Curricula)	Offer Training And Technical Assistance to Others	Develop New Curricula (Complete)	Other
Laypersons*		(100) 100% / 7%	(11) 11% / 16%	(46) 46% / 8%	(41) 41% / 9%	(33) 33% / 8%	(47) 47% / 6%	(13) 13% / 6%	(16) 16% / 11%
Students		(12) 100% / 1%	(0) 0 / 0	(5) 42 / 1	(4) 33 / 1	(2) 17 / 5	(5) 42 / 1	(1) 8 / .5	(2) 17 / 1
Professional Educators	Teachers/ Professors	(510) 100% / 38%	(27) 5 / 40	(242) 47 / 40	(161) 32 / 35	(158) 31 / 39	(279) 55 / 38	(85) 17 / 40	(69) 14 / 46
Professional Educators	Specialists	(92) 100% / 7%	(2) 2 / 3	(31) 34 / 5	(31) 34 / 7	(42) 46 / 10	(51) 55 / 7	(19) 21 / 9	(9) 10 / 6
Professional Educators	Administrators	(442) 100% / 33%	(22) 5 / 33	(215) 49 / 35	(166) 38 / 37	(114) 26 / 28	(230) 52 / 32	(55) 12 / 26	(35) 8 / 23
Professional Educators	Others	(166) 100% / 12%	(5) 3 / 7	(57) 34 / 9	(46) 28 / 10	(54) 33 / 13	(104) 63 / 14	(32) 19 / 15	(19) 11 / 13
Non Codeable**		(2) 100% / —	(0) 0 / 0	(2) 100 / —	(1) 50 / —	(1) 50 / —	(1) 50 / —	(0) 0 / 0	(0) 0 / 0
Unknown***		(13) 100% / 1%	(0) 0 / 0	(4) 69 / 1	(5) 38 / 1	(3) 23 / 1	(4) 69 / 1	(3) 23 / 1	(0) 0 / 0
TOTALS		(1337) 100% / 100%	(67) 5 / 100	(606) 45 / 100	(457) 34 / 100	(407) 30 / 100	(726) 54 / 100	(210) 16 / 100	(151) 11 / 100

* Laypersons include parents and interested citizens who did not also indicate that they held professional positions in education.

** "Non-codeables" include those who checked so many categories that classification was impossible.

*** "Unknowns" include those who failed to supply information about their positions.

about ends. In this section, we touch briefly on noncurricular improvement strategies which various people have advocated. This discussion does not suggest the full range of educational improvement strategies because our inquiry focused on matters related to curriculum development. We therefore acknowledge this major limitation to our inquiry: we have nothing to say, for example, about such important matters as school finance, judicial and legislative processes, major social expedients (e.g., busing), school organization schemes (e.g., open education), and the like. Such significant school reform efforts were beyond the scope of our inquiry.

A major theme running through many discussions was that instructional program development should occur only in conjunction with other necessary activities to help teachers, parents, and others in adapting and using materials. Results from one of our discussion guide analyses (see Table I) demonstrate that a majority of respondents in each category (e.g., students, teachers, administrators) recommend that NIE offer training and technical assistance. (NB: Respondents could check more than one option, so that row totals sum to more than 100 percent. Also this is a nonrandom sample, and we caution against generalizing from these results.) We infer that many educators regard the provision of new instructional programs as insufficient in-and-of-itself to improve education. Practitioners request direct services to support and improve their efforts.

Lauren Resnick (1976, p. 15) stressed a related point in noting that, "Teaching materials are not in themselves curricula—if we mean by curricula everything necessary to foster learning." She goes on to suggest that, "... adapting instruction to multiple differences among children ... almost always involve(s) substantial redesign of the social matrix within which instruction takes place" (Resnick, 1976, p. 15). John Carroll (1976, p. 3) (University of North Carolina) stresses the same point in noting that past large-scale curriculum efforts have failed to consider the role of new curriculum packages in the total school curriculum. Questions such as what students are likely to benefit, what prior learnings have students had, what overlap exists with other materials, and what other desirable materials will be displaced, should be raised as aspects of any adoption decision.

Many laypersons and educators stressed that the professional competence of teachers is the prime determinant of quality education. (A point of view ably expressed in the papers by Madeline Hunter [1976], Samuel Postlethwait [1976], and David Hawkins [1976].) For example, in a position paper to the Task Force, the National Education Association's Standing Committee on Instruction and Professional Development states that, "Teachers must have time and opportunity for direct involvement in curriculum development if schooling is to be more effective" (1977, p. 2). Such a perspective leads to calls for the improvement of teaching through pre- and inservice training.

A third oft-stated theme is that more instructional materials are available today than practitioners know about or can possibly use. (Komoski, January 1976, estimates almost 500,000 separate curriculum programs on the market, not including what teachers and school systems develop on their own.) This suggests that dissemination of information about what is available is a top priority. Many also recommend that evaluative information is needed to aid the materials selection process. Teachers in particular urged this role for NIE at meetings with the International Reading Association, the National Council of Teachers of Mathematics, the National Council of Teachers of English, and others. Currently, the Educational Products Information Exchange (EPIE) run by Kenneth Komoski, is the chief source of consumer-oriented information about instructional materials, but many educators are unaware of even this service.

This brief tour of improvement strategies other than curriculum development covers only some of the major, widespread ideas; we defer discussion of other recommendations to the "Prescription" section of this chapter.

Curriculum Development as a Change Strategy

> More can be done to improve the quality of education through the development of improved instructional materials than in any other way.
>
> Efforts in curriculum development have had relatively little influence in modifying the total effective school environment.

These two quotes, the first by James Squire (1976, p. 2), the second by David Hawkins (1976, p. 1), point out the range of opinion on the efficacy of curriculm development as a

change strategy. As we have seen, assessments depend on what is being claimed: proponents of curriculum development as an optimal change strategy would surely argue that, "modifying the total effective school 'environment'" is not the aim of many curriculum development projects, and so is an unfair measure of their success. Just as surely, opponents would dispute James Squire's global claim that curriculum development "improve(s) the quality of education." The significance of such statements, though, may not be in their validity as empirical claims, but in their expression of belief—faith if you will—about the most likely prospects for educational reform. In the face of equivocal and often-disputed evidence for every educational improvement strategy, educators must place their chips on one bet or another.

Claims about the efficacy of curriculum development depend first on one's approach to development, and in the years since Franklin Bobbitt and others pioneered the "science of curriculum-making" a variety of approaches have evolved (see Herbert Kliebard's [1976] paper for a brief historical overview). Variables such as project origin, funding source, nature and extent of innovation, project goals and outcomes, linkage between project and schools, and teacher role differentiate approaches. To demonstrate the dependence of claims about the effectiveness of curriculum development upon one's approach to development, we review the advantages claimed for two major approaches to development.

One approach regards curriculum as *preactive*, as learning opportunities embodied in instructional materials prepared prior to instruction. Such a conception rests on the hypothesis that carefully prepared materials are a significant determinant of learning (in conjunction with, not independent of, teacher utilization of the materials). Proponents (e.g., Richard Schutz, James Squire, Lauren Resnick) argue that this approach allows developers to:

- Capitalize on the necessary skills and knowledge of interdisciplinary teams of experts.
- Insure proper attention to established principles of learning and instruction.
- Avoid the duplication and waste inherent in innumerable local development projects.
- Embody national perspectives in such value-laden areas as sex and race discrimination, bilingual education, and special education.

The second major approach considers curriculum as *interactive*,* the outcome of interactions among teachers, parents, students, and materials. Such an approach rests on the hypothesis that the preparation and use of materials within the context of purposes determined by the participants significantly enhances both the quality and the outcomes of instruction. Proponents (e.g., David Hawkins, Lillian Weber, and others) claim such an approach:

- Allows for and promotes the constant decisionmaking necessary to adapt to individual needs and circumstances.
- Stimulates creative, flexible teaching, an integral part of which is the creation and adaptation of materials to suit the emergent purposes of teachers, parents, and students.
- Improves critical teacher competencies such as command of subject matter, ability to judge readiness of youth, skill in developing materials, and so on.

As we suggested above, these two approaches are not necessarily opposed to one another. Proponents of the former approach recognize that classroom interaction is critical and can design materials to be used flexibly and adaptively (the increasing production of "modules," "units," and "proto-type" materials rather than complete curricular packages testifies to this awareness on the part of developers). Likewise, those espousing the latter approach cannot do without some materials produced elsewhere. The policy implication of this difference in approaches rests on the fact that these approaches compete for scarce resources: Some urge continuing Federal sponsorship of "professional" developers as a top priority (e.g., Richard Schutz, Jerrold Zacharias); others urge support and assistance to improve teacher and parent competencies in working with materials (e.g., a strong recommendation at each of the public meetings and in the National Education Association position paper).

*Nel Noddings uses the preactive-interactive distinction in the conference proceedings, attributing it to Philip W. Jackson, "The Way Teaching Is," in *The Way Teaching Is* (Washington, D.C.: ASCD, 1966).

Claims about the efficacy of curriculum development also depend on the range of effects to which one attends. We have so far focused principally on teacher and student effects, but proponents suggest a series of collateral benefits for curriculum development as well (usually with the "preactive" approach to development in mind):

- Curriculum development explicitly raises important value questions, which people must confront. Developing new curricula is an excellent way to stimulate debate of value questions otherwise overlooked. (Michael Timpane [Rand Corporation], "Report," 1976, Appendix C.)
- Curriculum development serves educational research by generating research questions, providing ready-made, economic "treatments," and by instantiating theories and research findings (Lawrence Fish [1976, pp. 5-6], Richard Schutz [1976, p. 11], Lauren Resnick [1976, p. 4]).
- When referenced to use of specific instructional materials, teacher training is considerably improved. Consequently, curriculum development serves to facilitate teacher training (Richard Schutz [1976, p. 6], Samuel Postlethwait [1976, p. 6]).
- Conducting curriculum development teaches us how to better conduct such activity. We learn by doing, and the sponsorship of curriculum development leads to improvements and innovations in the art and science of this activity (John Mayor [1976, pp. 11-12], University of Maryland).
- "Curriculum development stimulates publishers to undertake programs they might otherwise have overlooked or resisted" (letter to NIE Curriculum Development Task Force by Howard Mehlinger, president-elect to the National Council for the Social Studies, December 16, 1976, p. 2).
- ". . . national curriculum projects can affect not only the school curriculum, but also potentially affect the structure of the policy system that influences the school curriculum" (Wirt and Quick, 1976, p. 21). This claim is a major thesis of John Wirt's forthcoming study and refers, generally speaking, to the impact of large-scale curriculum development on such other determinants of the school curriculum as State-wide testing programs, college entrance requirements, State adoption boards, State curriculum law, and the like.

Estimates of Resources Required for Instructional Program Improvement

Estimates of the resources necessary to carry out instructional program improvement figure prominently in curriculum discourse. We identify six types of resources which we will examine in turn: money, time, knowledge and technology, personnel, organizational arrangements to join and coordinate other resources in efficient ways, and political support to guarantee stable means and purposes. As we discuss each resource, we will point to what should by now be axiomatic: Resource estimates depend on and vary according to such factors as one's conception of curriculum and curriculum development, the size of the target population, the extent to which proper use of the new program requires training, and others.

Money

Creation of instructional materials under optimal conditions (which includes assembling a critical mass of experts with a number of specialities, extensive pilot-testing and revision of materials, attractive packaging using modern media, and careful evaluation), is clearly an expensive enterprise. Development in this mode, as sponsored by the National Science Foundation or as conducted by a Regional Laboratory, can and has cost several million dollars per project (discussing development of an elementary mathematics program for television, Jerrold Zacharias [1976, p. 18] estimated the costs at $15 million over 5 years to produce the shows, the tests, and the teaching-learning guides). One such development project can consume a considerable share of an agency's budget, while such a thorough approach to development is unfeasible for all but the largest publishing firms.

Furthermore, activities necessary to insure widespread and proper use of new materials cost even more. For example, Ralph Tyler's (1976, pp. 16-17) estimate, based on NSF-sponsored projects and on the extensive educational reform underway in Israel, is that, ". . . eight to ten times the funds used in constructing the curriculum have been spent in

teacher's consultations and conferences and other means to help teachers implement the new courses." He goes on to note that past development efforts have seriously underestimated implementation costs, a conclusion which Zacharias and Cronin confirm as well. If the Federal Government is to sponsor large-scale development efforts together with the associated teacher training, then it must be prepared to expend large sums of money.

If, however, the Federal Government takes a different approach to curriculum development—sponsors local efforts for instance (a precedent being Title III of the Elementary and Secondary Education Act, funded at approximately $150 million annually in recent years [Berman and McLaughlin, 1975, p. v], which provided funds for locally-initiated innovations)—how would the costs compare? This depends, of course, on the nature and extent of the program. With almost 17,000 school districts, though, even the meager provision of $1,000 per year per district would cost the government $17 million per year, a substantial sum. The obvious conclusion is that any development efforts intended to affect a substantial number of schools will be costly.

Time

Estimates of the time required to design and create a new instructional program (as opposed to revision or adaptation of materials already available) converge on 3 to 5 years (e.g., Decker Walker, 1976a, pp. 13-14, Ralph Tyler, 1976, pp. 16-17), as a lower bound, and 10 years as an upper bound (e.g., Richard Schutz, 1976, p. 14). Joseph Cronin (1976b) similarly suggests that the textbook market is "responsive to urgent needs and popular mandates; within 5 years textbooks and kits reflect state priorities and federal stipulations because of dollar incentives." However, he also cites the research of Paul Mort to indicate that the spread of complex innovations such as the junior high school, or the provision of guidance counseling takes 50 years from initial adoption by one school to widespread acceptance.

Again, these estimates are referenced to a particular type of development (e.g., NSF-sponsored large-scale projects) and we have no estimates keyed to other forms of development. Apparently, though, underestimates of the time required to carry out curriculum development are as common as underestimates of the money required.

Knowledge and Technology

Often overlooked is the requirement that there be requisite knowledge and technology to carry out (and to justify) curriculum development. Reference here is to several kinds of knowledge: theories in the disciplines on which to organize and sequence curricular content and on which to devise teaching strategies (e.g., Piaget's theory of child development); fundamental reorganizations of knowledge which suggest improved ways to organize school curricula (e.g., unified approaches to science); and knowledge of how to conduct such activities as needs assessment, materials design, evaluation, dissemination, and implementation. Likewise, the translation of theoretical knowledge into practical form (i.e., technology) is necessary. Frequently too, technological breakthroughs in other areas (e.g., telecommunications, computer programing) have significant implications for the formating and delivery of educational services.

Conversely, development in an area where the knowledge base is weak and or where theoretical knowledge has yet to be translated into technology may yield poor quality materials which fail to justify the investment. Another perspective, however, views curriculum itself as a technology, the instantiation of research and theory. Development so conceived is an engineering experiment, a form of applied research which aims at the creation and improvement of educational technology. The policy implication of knowledge and technology considered as a resource is that a professional judgment of the keenest sort about the state of knowledge in a particular area is a necessary aspect of a decision to develop.

Personnel

Under dispute are both the competencies required to conduct various curriculum-related activities (e.g., needs assessment, materials design and formating, evaluation, selection and adaptation, etc.) and the distribution of these skills among laypersons and professional educators. Judgments about requisite competencies depend, again, on what activi-

ties one has in mind, and on how one believes those activities should be conducted. We have already reviewed the testimony which suggests that parents and teachers are currently ill-prepared in many ways; such an assessment leads to calls for better training and technical assistance. Likewise the Task Force has on record the assertions that curriculum development capabilities are concentrated in such places as Regional Labs, private nonprofit institutions such as the Education Development Center, certain publishing companies, and in universities. The foregoing suggests a summary to the effect that while competencies to create instructional materials are concentrated in relatively few locations, competencies to adapt and use materials must be widely distributed but are currently underdeveloped.

Organizational Arrangements

Many have commented that the institutional segregation of such roles as sponsor, developer, evaluator, administrator, teacher, parent, and student is a major obstacle to educational improvement. What we have termed the Dilemma of Involvement continues to plague attempts to organize these roles in mutually satisfactory and reinforcing ways. On one hand, curriculum development greatly benefits from the interdisciplinary and interprofessional skills which are concentrated in universities, Regional Labs, and the like. On the other hand, many support the need to involve parents, teachers, and community members in some form, at some stage, or in regard to certain activities.

A major problem with centralized development projects is insuring widespread proper use of the products. Teachers may never hear about the availability of new materials or may attempt to use them, experience frustration, and reject them or adapt them improperly. There is widespread concensus, then, that failures in interinstitutional and intraorganizational arrangements have been a serious hindrance to educational improvement in general, and to curriculum development in particular.

Political Support

As we noted, many judge long term funding at significant levels a prerequisite for quality curriculum development. Time and money are in turn dependent on sustained political support in the face of changing social purposes, uncertain short term results, and (frequently) only the promise of long term effects. Many observers have commented on the adverse effects of fickle political support, of educational bandwagons, and of the uncertainties and delays in funding cycles. The educational scene today is characterized by a large number of special interest groups, each with some ability to garner support, who vie with one another for resources. In such a situation, the twin Dilemmas of Stable, Shared Purposes are particularly difficult to reconcile.

The above resource types suggest that for at least two reasons curriculum decisionmaking is not—cannot be—a simple matter of cost-effectiveness trade-offs, or of purely rational calculations. First, curriculum reform is an historical phenomenon, dependent on particular circumstances. The history of curriculum development, as Herbert Kliebard (1976) (University of Wisconsin) and Larry Cuban (1976) have pointed out, is a history of response to broad social, political, and economic forces and to particular events. Hence, political support for curriculum reform is unpredictable in both its strength and its duration. This has led to opportunistic efforts, difficult to sustain, which are soon superceded by new initiatives. Wirt and Quick (1976, p. 25), among others, identify a critical dilemma: ". . . while intense social problems clarify objectives and provide impetus for change, the curricula produced may turn out to contain solutions for problems that no longer exist if the time required to institutionalize them is too long." "There are many situations," writes Geoffrey Vickers; "in which to be systematically late is to be systematically wrong" (1970, p. 96).

Second, resource estimates rely on both technical-professional judgments and on political judgments, and our ability to make accurate estimates in both cases is limited. Does sufficient knowledge exist to warrant new development? Is a particular innovative proposal "promising?" Is the temper of the times propitious for such development? We possess no technologies, have little empirical data, and a relatively short line of historical experience to facilitate such judgments. Even the "experts" will disagree, and such disagreements will rest both on matters of fact

and of value; in such cases all manner of disputes—concerning both means and ends—are likely.

Diagnosis

A full cataloging of diagnoses requires more detail than we can allow here. Furthermore, we would like to trace the paths along which particular conceptions of roles, of curriculum, and of educational improvement converge with estimates of resources to form particular diagnoses; such a task, though, is extremely complex and well beyond the scope of this inquiry. So, the diagnoses we identify serve only to suggest major variations in how people view education today; no group or individual argued any one of these diagnoses in pure form.

The first diagnosis gives the patient a more or less clean bill of health. Schools today, this argument runs, are probably having maximum effects, are organized in ways satisfactory to the majority of the clients, and require modest changes at most. Radical innovations, claim such spokesmen as the Arizona parents' group, LITE, will make marginal differences at best, so that Federal sponsorship of innovative projects is rarely in the public interest. Furthermore, in most cases the harmful side effects of most innovations far outweigh their advantages. We mainly need to eliminate superfluous content, goals, and activities from what some consider a bloated curriculum (e.g., Robert Segura at the Task Force conference). If we concentrate school resources on those goals for which a broad consensus exists, we can achieve them. Better to do some things well (e.g., teach everyone to read and write) than to attempt too much and fail at all things.

Consonant with this diagnosis is the pursuit of equal educational opportunity. Every child deserves the full benefits of schooling and where children are demonstrably not receiving such benefits, there we must target our resources. Such targeting of effort is essentially the position Ralph Tyler (1976) advocates in his paper.

A second diagnosis judges the past two decades of curriculum reform to have been inadequate and or incomplete. The judgment of inadequacy rests on a number of claims already reviewed: that new curricula never reached the schools; that ways and means to

integrate new curricula into ongoing systems of instruction received too little thought; that the theory and research base for many new programs was insufficient; that introducing new instructional materials alone has little impact; that the goals of curriculum reform did not even address the serious problems of education, and so on. A number of thoughtful writers join this chorus: John Carroll, Lauren Resnick, James Squire, Ralph Tyler, and Larry Cuban, among others. Many teachers and administrators at the various professional meetings we attended also stressed that curriculum reform had little direct impact. Frequently, they said, they were unaware of curriculum reform efforts.

The judgment of incompleteness rests on the claim that funding was cut off before the job was finished. Elton Hocking (1976, pp. 2-3) in his paper makes this case for a number of foreign language programs; Jerrold Zacharias (1976, pp. 5-6) concludes similarly for a variety of mathematics/science programs.

Frequently these two judgments merge. That is, agencies allocated sufficient funds for development of materials, but not for dissemination and implementation support. Consequently, many inadequacies of past development efforts rest on insufficient support for the promotion and use of new materials in the schools. The question of use is particularly critical when changes in teacher behavior are necessary to the proper implementation of new programs. The issuance of a new textbook may require no changes in teaching style or methods. The

teacher may have to master new concepts and become familiar with new content, but not alter his/her teaching behavior in significant ways. If, however, the essence of a new program is pedagogy, if it rests on a new theory or model of teaching (e.g., science as a process of inquiry rather than as a body of knowledge), then "use" of that curriculum does not simply follow its purchase. Teacher (re)-training is an essential concomitant of "use" in this case.

What prescriptions does such a diagnosis lead to? Lauren Resnick (1976, p. 17) in her paper, makes the extremely important point that the answer depends on your priorities, on the goals of education you establish. If, for example, the goal of mathematics instruction is computational skills, then investment in dissemination is warranted because proven materials already exist; if the goal is mathematical problem-solving, then research and development is the priority because we do not yet understand how children acquire such a complex ability. In short, the allocation problem is closely tied to the value problem which, for a funding agency, translates into political pressures brought to bear by conflicting constituencies.

A third diagnosis trusts that over the past two decades curriculum reform has been successful in realizing stated goals and in improving the quality of education in other collateral ways. However, our current assessment procedures—tests and other measuring instruments, evaluation designs, data analysis techniques, and the like—have been inadequate and misleading in identifying such improvement. We run the serious risk of allowing our crude, narrowly conceived evaluation efforts to determine the goals of education. In the absence of adequate technology, such innovations as State-wide testing programs and other accountability systems, and competency-based education are bound to exert a pernicious influence on the curriculum. Such a view, while ratifying investment in curriculum development, points more directly to improvement of evaluation methods as a top priority. Lloyd Trump of the National Association of Secondary School Principals made a special plea for improved evaluation in his conference recommendation ("Report," 1976, Appendix C). As well, teachers and administrators in a variety of meetings also listed improving evaluation as a critical need.

The fourth and last broad diagnosis involves the governance of educational change, something of a catch-all which covers a multitude of problems. The most prominent of these follow.

Discussion at meetings with three major organizations of administrators (the American Association of School Administrators, the National Association of Elementary School Principals, and the National Association of Secondary School Principals) and with the Education Commission of the States converged on the problem of purpose as critical today. Administrators in particular are worried about the lack of consensus over the purposes of schooling, and about the continuously expanding expectations for the role of schools. They seek legitimate bases for decisions they must make on what courses to include, what content to cover, what skills to teach, what values to instill, and the like. This concern is directed not only to the present state of affairs, but to the future. Many administrators believe that school must prepare youth both for immediate conditions (e.g., the state of the job market in various fields) and for probable future states based on such trends as the changing role of women in our society, the approaching limits to economic growth, the increasing gulf between "have" and "have not" nations, the potentialities of further rapid technological change, and so on. The problem for today, though, seems to be not simply the temporary lack of consensus about the purposes of education; rather, we lack the political processes and institutional arrangements needed to achieve consensus. In the absence of stable, shared purposes, some argue, educational improvement may be impossible.

Questions about purpose give rise to a number of dilemmas, which we have previously touched on but have not made explicit. Stated baldly, three such dilemmas involve the need to:

- Reconcile the simultaneous demand on schools to maintain society while responding to pressures for societal change.
- Reconcile perceptions that the school curriculum is already too crowded with subjects and goals with the continuing calls for attention to new matters (e.g., energy education).

- Reconcile calls to provide similar learning experiences for all children with calls to diversify learning experiences according to group characteristics (e.g., bilingual education) or to individual characteristics (e.g., individualized instruction).

A related issue centers on the basis for and claims about legitimacy. Legitimacy we define loosely as the agreement by members of a group (or policy) that those who govern do so rightfully. Grounds for legitimacy include tradition, expertise, legal contracts and processes, and the like. In practice, legitimacy is frequently related to effectiveness. If a leader is effective in realizing group goals, or delivering timely services, his/her legitimacy is rarely questioned. Today, though, in debates over the purposes and methods of education, challenges to legitimacy are widespread: "professionals do not represent parent concerns;" "state legislatures do not represent local needs;" "Federal initiatives are intrusions into state and local affairs;" and "mobilized parent groups do not speak for the community at large." Such challenges vastly complicate the debate over the issues, and make any course of action problematic.

Coordinating the delivery of products and services between the various levels of government (and at the Federal level across agencies) and between the public and private sectors is another serious governance problem. Problems of gaps, duplications, cross-purposes, and the like are legion. Inefficiency is the diagnosis in this case. Many have urged attention to this problem, but it has so far proven to be intractable. First, the Dilemma of Leadership may apply here. The concept of "coordination" is quite vague but is generally perceived as a benign function. In practice, though, Federal attempts to "coordinate" may be regarded at State and local levels as efforts to control. Interagency efforts at the Federal level are no less prone to such suspicions. Second, if we consider the dissemination of information as a principal strategy for achieving better coordination, the amount of information to disseminate, and the number of decisionmakers to reach, is staggering. This problem of coordination is indeed serious.

Finally, we note that regulating the competition for scarce resources in the interest of both equity and efficiency is a significant governance problem. Daniel Bell estimates that 8 percent of the U.S. workforce is engaged in education-related work (Bell, 1973, p. 67); Stephen Bailey (1976, p. 3) estimates that 250 to 300 education-related special interest groups have offices in Washington. In the best of times such a large, varied concern would generate considerable conflict. Today, it appears that good will and compromise-thinking are shrinking as rapidly as resources. Where one expects alliances, one sees battle lines; where cooperation appears natural, and more, necessary, to achieve mutual goals, there is competition and conflict. We overstate the case, to be sure, and it is difficult to determine whether the "politicization of education" is a recent phenomenon or a recurring one in modern guise, but concern over this issue is evident (e.g., see the papers by William Boyd and Decker Walker).

Prescriptions to NIE

Recommendations which people have made to NIE concerning its role in instructional program improvement fall into two broad categories: procedures to follow in setting priorities, making allocational decisions, and distributing funds; and R&D activities to support, both in general (e.g., dissemination) and specifically (e.g., sponsorship of citizenship education). A full accounting of recommendations would require more detail than this report allows, so we will again oversimplify and suggest several broad classes of recommendations.

Procedural suggestions most often proceed from a concern over roles in the interest of legitimacy and equity. By far the most prominent recommendation of this type is to "involve _____ (fill in the blank with "parents," "teachers," "administrators," "State education officials," "scholars," etc., with each major interest advocating that it be consulted). Beyond such expressions of self-interest, however, there was broad-based consensus that laypersons and teachers in particular should be involved, in curriculum decisionmaking generally and in project selection and funding decisions at NIE specifically. This was probably the single most important theme of each public meeting, and emerged as well in many of the meetings with particular groups. Interestingly, few people recommended a more significant role for the student; students

were present and spoke in favor of such involvement at the Philadelphia meeting; and Lillian Weber and Robert Davis discussed the necessity of involving students in curriculum development at the Task Force conference. Such expressions of concern, however, were few.

Other procedural recommendations made with some frequency included the following:

- Fund localities directly (e.g., mini-grants to school districts, special grants to exemplary teachers, etc.) (meeting with the National Association of Secondary School Principals, October 1, 1976).
- Increase the use of matching-fund arrangements with States and localities (letter to NIE Curriculum Development Task Force from Gordan Swanson, University of Minnesota, November 15, 1976, p. 3).
- Open the grant review and award process to greater public participation and scrutiny (Tyll van Geel, "Report," 1976, Appendix C).
- Use funds in such a way as to create partnerships between Federal, State, regional, and local agencies (Brandt, 1976, p. 5).

A crude but concise way to classify recommendations on NIE's role in sponsoring R&I activities is to use the classic economic terms of production, supply, and demand. A fourth broad mode of involvement, to continue the economic analogy, conceives NIE in the role of government vis-a-vis an imperfect market. That is, NIE coordinates relations among units within the market. These four categories serve only to organize the following discussions. Most individuals recommended more than one of the following roles for NIE, so no role should be thought of as strictly preempting the others.

Those who advocate a production or supply role for NIE have three commodities in mind: knowledge, technology, and instructional programs. Some (e.g., LITE) recommend that NIE restrict its role to the production and supply of knowledge. Such a position proceeds from an assumption about the proper Federal role in education, namely that the National Government should not does not have the right to control education through the production of educational materials which embody particular values and assert the primacy of certain goals. Others recommend knowledge production and supply, not to indicate exclusion of other activities, but to suggest research priorities. For example, we have Paul Hurd (Stanford University) recommending "The support of complex studies on the 'ecology' of the classroom and its impact on learning" ("Report," 1976, Appendix C); David Hawkins (1976, p. 8) suggesting that the first aim of curriculum research is, "... to remap the elementary domains of subject matter in such a way as to make these maximally accessible," or Lawrence Fish (1976, p. 7) advising NIE to, "... support greater research on the processes of development, dissemination, and implementation. ..."

Others argue the need for production and supply of technology as the most useful way to improve education. NIE ought to produce methods and models of curriculum development, needs assessment, evaluation, implementation, and staff development which others can adopt and use for their own purposes. Such a role, they argue, avoids the twin evils of endless research results accumulating but never improving practice, and of full-scale centralized curriculum development which suffers the defects we have reviewed above. Thus, James Squire (1976, p. 9) argues, "... the need for encouraging development of alternative models for achieving the same purpose," and M. L. Brockette, State commissioner of education in Texas, urges that NIE, "... direct a major part of its attention and resources to the development of improved instructional techniques" (letter to NIE Curriculum Development Task Force, December 21, 1976, p. 1).

Production and supply of the third commodity—instructional programs—needs little elaboration. Jerrold Zacharias, Howard Mehlinger, Richard Schutz, Ron Brandt, and others argue for development of instructional materials as a proven, effective means for improving education. We have also quoted James Squire, a publisher, as favoring development; he makes a further argument for curriculum development by noting that although, "... a greater pay-off results from the improvement of teachers than of products ... the difficulty of reaching large numbers of teachers (makes) product development ... more realistic" (Squire, 1976, p. 2).

In general, those who argue for production

as a critical NIE role also argue that NIE should supply what it produces. Instructional programs are the exception; some propose that these should be turned over to publishers to supply because of their superior marketing, distribution, and storage capabilities. NIE might also play a significant role in synthesizing and disseminating research results in areas of interest to practitioners (e.g., effects of class size on learning).

Supply alone is also an option. This argument operates from the premise that instructional programs already abound which practitioners know little about. Samuel Postlethwait [1976, p. 11], for instance, claims that, "products already produced are lying on shelves awaiting publicity or funds." Consequently, NIE should provide information about what already exists in forms convenient to practitioners.

Likewise, NIE should develop delivery systems for new technologies to insure that they are properly understood and widely used. As Table I indicated, provision of training and technical assistance is a popular recommendation (a number of people for instance suggested that we establish in education the analog of agricultural extension agents. Lawrence Senesh [1976, p. 15] recommends the establishment of 20 to 25 regional centers to work on creating closer relationships between schools and their communities). Many today perceive supply activities—both in conjunction with production and by themselves—as a critical underdeveloped aspect of a national R&D system.

While production and supply are functions and can also be purposes for the Institute, the next two modes of involvement rely on the functions of production and supply to serve other purposes. That is, NIE can produce and supply knowledge, technology, and products as ends in themselves or as means for stimulating and articulating demand, or for coordinating the work of others. We next examine each of these purposes in turn, purposes which suggest quite a different role for the agency than production supply as an end in itself.

The stimulation and articulation of demand appear to many to be a more appropriate role for NIE than the direct production of materials for use in schools. This approach to the Federal role acknowledges that control of education belongs with States and localities, but argues that the Federal Government can legitimately offer assistance in educational planning and decisionmaking. Rather than implicitly establishing purposes for the schools through provision of particular programs, the government can and should help the schools determine their own purposes. This perspective on the Federal role leads to recommendations such as the following:

* Conduct and/or build capacity in others to conduct needs assessments.
* Disseminate information and opinions—contending briefs—on future social, economic, political, and other trends likely to affect the shape of and demands on education in the future.
* Conduct and/or build capacity in others to conduct program evaluation, and supply evaluation results to consumers.

The last of these recommendations is particularly appealing to many, including a number of State legislatures (e.g., Florida and California) which have passed legislation requiring "learner verification and review" of all instructional materials (Kenneth Komoski's term for the process of testing and revising materials on the basis of trial use with students). Table II also indicates that many of our respondents favor NIE activities which aid consumer decisionmaking. Almost one-half the respondents checked "build selectivity not demand" as a priority activity in the area of dissemination and implementation support. (Again we remind the reader that row totals sum to more than 100 percent due to multiple entries from each respondent, and that generalizations from this data are not valid due to nonrandom sampling.) We interpret this preference to mean that respondents favor the supply of information and/or support services which help them to select instructional programs and other products.

In practice, this perspective on the Federal role is similar to the one which identifies supply of technology as a top priority. Both stress the value of assisting others in planning and carrying out their own purposes, but there is an important distinction between them. Those who advocate supply of technology to States and localities envision such units as developing capacity to carry out the full range of R&D activities (e.g., research, development, evaluation, etc.). Such an ap-

proach guarantees a maximum of autonomy to each unit in the system. Those who advocate demand articulation conceive planning, problem identification, goal setting, and assessment as local-State priorities. In the interests of efficiency, however, they regard a division of labor which assigns other activities to other entities (e.g., development of instructional programs to Regional Labs and publishers) as desirable.

A second purpose NIE might serve is to coordinate the work of other educational agencies. Such a purpose principally serves the value of efficiency, but also of harmony and cooperation. To prevent waste, duplication, and gaps in the provision of goods and services; to cut down on time lags which render action too little and too late; to point to contradictions and ambiguities in the plans which others prepare to carry out their purposes; to alert the educational system to plans and actions conceived at different levels and in different sectors which conflict with one another; these are some aims of coordination.

Most often, people have expressed the need for coordination in relation to the multifarious activities of Federal agencies (a recent Federal Interagency Committee on Education report [1976] indicates that more than 30 Federal agencies are involved in curriculum activities). Lawrence Senesh (1976, p. 14) summarizes the frustrations of many when he recommends that, "Resource allocation of Federal agencies should be closely coordinated within one system and with commonly agreed-on-goals." Others, however, also argue for Federal-State-local partnerships in the service of coordination (e.g., Don Egge's [Oregon State Department of Education] recommendation to, "encourage cooperation of local, State, and national organizations in the formation of a National policy" ["Report," 1976, Appendix C]).

Conclusions: Implications for Policy

The Task Force inquiry indicates that there is no unanimously endorsed role for the National Institute of Education in the area of instructional program improvement. Any course of action the Institute takes will have its defenders and detractors, will serve the interests of some but not of others, and will realize, however imperfectly, some values but not others. We conclude our summary of findings with some observations suggested by this inquiry and with some thoughts about policymaking, as a prelude to the presentation of policy options in the following Section.

Curriculum reform is an historical phenomenon, a response to social, political, economic, and intellectual forces and events. Calls for and attempts at curriculum reform have come in response to immigration, war, the Depression, judicial decisions, rapid industrialization and urbanization, and other such stimuli. Intangible influences such as the emergence of new ideas (e.g., the psychology of Stanley Hall or the philosophy of John Dewey) and new techniques (e.g., the Army Alpha Tests developed during World War I) have shaped reform efforts, too. An historical perspective, then, suggests that policy should include consideration of present and likely future social, political, economic, and intellectual conditions. Such an appraisal is beyond what we can accomplish here, but we will indicate some of the most salient features of the current landscape.

Today, pervasive dissatisfaction with the way our institutions are operating leads many people to question the legitimacy of institutions and their spokesmen. At the same time, a second pervasive feeling—that the forces controlling people's lives are remote, impersonal, and beyond their power to reciprocally influence—is causing widespread frustration. While such feelings and perceptions lead some to apathetic resignation, others are demanding greater accountability on the part of those who claim to represent them, and more direct involvement in the decisionmaking processes that affect them.

We anticipate that such demands will influence the work of educational decisionmakers at all levels—from the classroom teacher in Albuquerque, New Mexico, to the Federal bureaucrat in Washington.

At the same time, a variety of special interests will continue to press their agendas for reform. We have a longstanding tradition of viewing education as a panacea for a multitude of social ills and a more recent tendency to regard curriculum development as an immediate means to influence education. Morever, as William Boyd (1976a, p. 21) pointed out in his paper, social reform has become the occupation for a new echelon of managers who have a vested interest in

Table 3.2

RECOMMENDED ROLES FOR NIE IN SPONSORING DISSEMINATION AND IMPLEMENTATION OF NEW CURRICULA

(Responses to "Guides for Public Discussion" Question #4: "Should NIE Help Implement New Curricula?")

each cell shows:
[raw no.] row % / column %

Recommended Role for NIE in Curriculum Dissemination and Implementation

Type of Respondent		Number of Respondents Who Answered This Question	Nothing	Supply Information About New NIE-Sponsored Curricula	Encourage Others to Help Schools Use New NIE Curricula	Arrange for Publication of New NIE Curricula	Offer Training and Technical Assistance in Implementation	Promote NIE Curricula	Build Selectivity Rather Than Building Demand	Other
Layperson*		[99] 100% / 7%	[71] 7% / 9%	[31] 31% / 9%	[28] 28% / 6%	[16] 16% / 7%	[42] 42% / 8%	[17] 17% / 8%	[48] 48% / 8%	[13] 13% / 14%
Students		[16] 100% / 1%	[0] 0 / 0	[4] 25 / 1	[4] 25 / 1	[2] 13 / 1	[2] 13 / —	[3] 19 / 1	[6] 38 / 1	[0] 0 / 0
Professional Educators	Teachers/ Professors	[506] 100% / 38%	[36] 7 / 47	[133] 26 / 40	[160] 32 / 37	[96] 19 / 43	[213] 42 / 38	[85] 17 / 41	[205] 41 / 34	[35] 7 / 39
	Specialists	[98] 100% / 7%	[5] 5 / 6	[23] 23 / 7	[31] 32 / 7	[20] 20 / 9	[43] 44 / 8	[20] 20 / 10	[49] 50 / 8	[1] 1 / 1
	Administrators	[442] 100% / 33%	[22] 5 / 29	[97] 22 / 29	[148] 33 / 34	[63] 14 / 28	[167] 38 / 30	[53] 12 / 26	[196] 43 / 31	[22] 5 / 24
	Others	[166] 100% / 12%	[8] 5 / 10	[45] 27 / 13	[61] 37 / 14	[25] 15 / 11	[65] 39 / 12	[22] 13 / 11	[106] 64 / 17	[19] 11 / 21
Unknown***		[14] 100% / 1%	[0] 0 / 0	[4] 29 / 1	[7] 50 / 2	[3] 21 / 1	[7] 50 / 1	[4] 29 / 2	[5] 36 / 1	[0] 0 / 0
Non-Codeable**		[2] 100% / —	[0] 0 / 0	[0] 0 / 0	[0] 0 / 0	[0] 0 / 0	[1] 50 / —	[1] 50 / —	[2] 100 / —	[0] 0 / 0
TOTALS		[1343] 100% / 100%	[77] 6 / 100	[334] 25 / 100	[438] 33 / 100	[225] 17 / 100	[555] 41 / 100	[205] 15 / 100	[611] 45 / 11	[90] 7 / 100

* Laypersons include parents and interested citizens who did not also indicate that they held professional positions in education.

** "Non-codeables" include those who checked so many categories that classification was impossible.

*** "Unknowns include those who failed to supply information about their positions.

reform, and in raising or creating issues which require government action. Consequently, we anticipate that escalation in demands for educational solutions to social problems will lead to further calls for curriculum development, and that NIE undoubtedly will be one focal point for such pressure.

Three values people commonly require from government are representativeness, technical competence, and leadership; each acts as the basis for a claim to legitimacy. The various positions we have reviewed with respect to the Federal role in curriculum development generally emphasize one or two of these values. For example, those who want NIE to actively sponsor innovation favor leadership. Technical competence is the value emphasized in the argument favoring Federal support for special institutions to conduct curriculum development. And advocates of a restricted Federal role generally claim that State and local governments more adequately represent the will of the people. In principle, these values do not conflict with one another; in practice, they almost always do, so that at the heart of disputes over the proper Federal role are value conflicts.

One method for resolving the clash among these values has been to distinguish decisions which are political from those which are technical and professional. By this method, a government agency lays claim to at least two bases for legitimacy. This classic split usually takes the form of public involvement (i.e., a political process) on questions of ends or purposes and "expert" involvement (i.e., a technical professional process) on questions of means.

For example, as we suggested above, value questions influence "technical" decisions about the allocation of resources: The selection of research, development, or dissemination as the strategy of choice depends on the goal. This suggests that the agency solicit public testimony to determine purposes, then rely on expert judgment in selecting the means to carry out those purposes. Such a procedure, however, suffers at least one defect when applied to educational affairs: "Technical decisions" in education may not be comparable with technical decisions in other applied fields (e.g., medicine, engineering) which have well-developed technologies based on accumulated theoretical knowledge from the "hard sciences." To a much greater extent than in fields such as medicine or engineering, "method reflects, sustains, logically implies, the purpose—or subverts it," in education (Fein, 1971, p. 64). Consequently, the foundation for technical decisionmaking is somewhat insecure, leading laypersons to vie with professionals for control over decisionmaking, each claiming a basis for legitimacy. To examine the professional claim to legitimacy more closely, we turn next to the realm of factual claims about curriculum development.

In cases where "experts" independently verify one another's judgments, their claim to expertise (and hence their legitimacy) is strengthened. Where this is not the case, the claim is weakened, and laypersons quite naturally will question the right of experts to judge matters for them. With respect to curriculum development, our evidence indicates little consensus about "the facts."

On the most fundamental empirical issue—the effectiveness of curriculum development as a means to improve education—little consensus exists among professional people. Some cite evidence that past curriculum reform efforts have led to significant changes, others cite counter-evidence to indicate that little change has occurred, and most evidence is subject to challenge on some grounds.

More importantly, however, the debate has centered on what facts *count*, and on what they *count for*. That is, people select certain facts and claim significance for them on the basis of some interpretive framework or system of belief. These beliefs rest on values, so the debate over "the facts" is grounded once again on conflicts of value. A single example will make this point.

On balance, some claim, Federal involvement in curriculum development has influenced significantly the curriculum of American schools. If curriculum development is a potent weapon in the Nation's arsenal for attacking national problems, this argument runs, then greater investment in curriculum development is a wise policy. However, if one believes that Federal initiatives in this area threaten the rights of States and localities to determine their own goals, then the "fact" of the efficacy of Federally sponsored curriculum reform leads one to advocate curtailment of Federal initiatives as the best policy.

On the other hand, if we accept the "fact" that Federal attempts at curriculum reform by and large have failed to affect the curriculum of American schools, the significance of this "fact" is no less equivocal. "We were never given a proper chance," the advocates of development might claim. "We know now that more resources are necessary; give them to us, we will redouble our efforts, and, eventually, we will produce results." In this case, the opponents of development simply can point to the meager results of past investment as the reason for declining to invest further.

In either instance, the selection of "facts" to accept depends upon one's values, perceptions of self-interest, and the shifting constellation of beliefs into which each person assimilates facts. As we have seen, disputes over values are profound, and competition for scarce resources creates conflicts, not commonalities, of interest. In such an environment, facts may provide some leverage in the debate, but will rarely settle issues conclusively.

A policy might be regarded as a prediction based on beliefs about the state of affairs in some area—beliefs about how things got that way and about how to improve them. Generally, people hold these beliefs in the face of uncertainty, so that the "prediction" may be no more than a sophisticated guess at the outcomes of implementing the policy. These beliefs are in turn based on matters of fact and matters of value, each influencing and informing the other in subtle ways.

As we have seen, there is no obvious way to integrate everyone's beliefs into a single policy, and no way to differentiate "true" from "false" beliefs—because we are uncertain about so many things and because beliefs involve not only what is "true" or "false" but also what people value. Consequently, in the final section of this chapter the Task Force proposes a set of policy options which reflects and embodies the range of values and assumptions elicited by our inquiry. The NCER, then, in formulating a policy, will be able to express *its* beliefs with some awareness of the alternatives.

Policy Options Considered by the Council

Introduction

In addition to summarizing the NIE Curriculum Development Task Force's findings, the report submitted to NCER by the NIE Director presented four major curriculum development policy options and a recommendation by the Director for Council consideration. The four options suggested the range of advice advanced to the Task Force. Each option contained statements of general policy position, indications of activities that would be eligible and ineligible for Institute support, and listings of criteria to be applied in selecting and funding proposed activities. In this concluding section of Chapter 3, we summarize the types of activities covered in the policy options, the general policy positions embodied in the options, sample arguments for each position, and some of the reasons for the Director's recommendation. More detailed information (e.g., criteria for each policy option, complete discussions of arguments and reasons) is available in the Director's report.

Distinction Between "Curriculum Development" and "Instructional Program Improvement." Although the Task Force's activities addressed topics in "curriculum development," the policy options, the Director's recommendation, and, subsequently, the policy adopted by NCER were limited to activities in "instructional program improvement." There were two basic reasons for this limitation. First, policies pertaining to any and all aspects of "curriculum," broadly conceived, could touch upon almost all of the Institute's actual and potential activities. Such broad policies were deemed inappropriate in light of the Task Force's limited charge. Second, some aspects of the broader conceptions of "curriculum" (e.g., students' experiences, unintended as well as intended) were considered improper (and probably infeasible) subjects of Federal policy. That is, while NIE as a Federal agency must decide what types of activities it intends to support (or not support) with its appropriated funds in attempting to fulfill its legislated mandate, it should not—and indeed *cannot*—decide what types of programs will be selected for use in American classrooms, what types of teaching/learning activities will take place in those classrooms, or what types of learning will occur. All instructional programs developed with NIE funds will be designed with certain types of instructional activities and learning outcomes in mind, of course. But, as the Task Force concluded, other influential determinants of instruction and learning render attempts to set Federal policies about actual instruction and learning meaningless.

Major Categories of Activities Varied in the Policy Options: The four policy options presented in the Director's report varied in two ways: (1) in the types of activities they allowed and prohibited and (2) in the basic Institute stance or attitude toward activities to be allowed. In order to make understandable the policy options themselves, we must first explain the four major categories of activity they covered:

1. Research: Activities in this first category include various types of investigations addressed to the characteristics of curriculum, instruction, and learning. Such investigations might include, for example: studies of how children (or adults) learn various subject matters; studies of the effects (intended and unintended) of different instructional programs, conditions, materials, techniques, activities, and experiences; studies of the subject matter being taught, the activities being carried out, and the materials being used presently in American classrooms and other educational settings; studies of the characteristics and requirements of classroom teachers; analyses of the structure of knowledge and the implications of that structure for instruction; and other studies that promise improvement in curriculum instruction, and learning.

2. Efforts to Strengthen, Facilitate, or Coordinate Others' Work: In sponsoring activities in this second category, NIE would not support the actual development of instructional programs. Instead, it would (1) strengthen the capabilities of State, local, and private agencies to conduct their own development and (2) facilitate or coordinate the work of other agencies through activities such as the following:

a. Creating and testing improved procedures for needs assessment, development, evaluation, dissemination, implementation, or other steps in the improvement of instructional programs
b. Gathering, analyzing, and disseminating information of use to those engaged in the improvement of instructional

programs at the State and local levels and in the private sector

c. Facilitating the activities of local, State, and private groups through:
   - Assisting in the identification of instructional problems and needs
   - Producing guidelines and materials for use in training others to develop instructional programs
   - Helping achieve organizational environments which foster involvements of various interested participants in instructional program development
   - Designing improved procedures and arrangements for collaborating on instructional program development
   - Assisting in adapting available programs for use in local settings
   - Providing reliable information and support services to help teachers, administrators, parents, and others select instructional programs consonant with their own needs and goals

d. Stimulating needed development by others through the conduct of market research, needs assessments, recognition of high-quality achievements, and various other incentives

3. Prototypic Development: Institute sponsorship of "prototypic development" would include the design and production of exemplary *parts* of instructional programs intended to serve as models for continued development by others. For example, NIE might decide to support the creation of a prototypic 1-month instructional unit which would demonstrate to other potential developers the form, content, and efficacy of the elements of an eventual 1-year course. Institute-sponsored prototypic development would always include appropriate evaluations of the prototypes to determine their qualities and effects on users. Information disseminated about prototypes developed under Institute sponsorship always would include the results of such evaluations. The prototypes themselves would be disseminated to serve as models for continued development by others only when the evaluations indicated acceptable quality and effects.

4. Full-Scale Development: Activities sponsored under this category would include the complete design and production of instructional programs ready for use in classrooms or other educational settings. If the Institute decided to give support for such activities, it would give funds in phases (conceptualization and design; prototypic development; full-scale development; and final revision), with continued support for subsequent phases dependent upon the results of Institute analyses at the end of each phase. Institute-sponsored full-scale development would always be accompanied by formative evaluations, summative evaluations (in cases where full-scale development is completed), dissemination of program information and evaluation results, and—when the results of summative evaluations are satisfactory and when certain other requirements are met—support for the dissemination and implementation of the programs themselves.

Four Optional Policy Positions

Policy Option #1. NIE's activities pertaining to the improvement of instructional programs and materials may include: the sponsorship of research on issues of curriculum, instruction, and learning; the synthesis of research findings in this area (including the findings of research sponsored by other sources, as well as that supported by NIE); and the dissemination of research results and syntheses. Under no circumstances will NIE support either the full-scale or prototypic development of instructional programs for use in educational settings, or projects intended primarily to strengthen, facilitate, or coordinate others' efforts to improve instructional programs. The only development permissible under NIE support will be that which is required for the successful conduct of Institute-sponsored research.

Arguments Given for Policy Option #1. Following are summaries of some of the arguments expressed to the Task Force by those likely to support the NIE role indicated in Policy Option #1:

1. All attempts by Federal agencies to improve instructional programs inevitably undermine local and State decisionmaking authority and interfere with the free enterprise system of producing and distributing instructional materials. The only way to avoid this undesirable, unconstitutional infringement is for NIE to refrain from instructional program

development activities altogether.

2. Adequate incentives (e.g., profit, need) exist for State, local, and private agencies to sponsor the development, evaluation, and dissemination of needed instructional programs. NIE should not duplicate their capabilities and efforts.
3. With a limited budget, NIE will not be able to contribute much to the Nation's needed development. However, it can contribute research to improve the development efforts of others, and no other agency is likely to support this needed research.
4. Federal agencies such as NIE are too distant from local schools to be able to respond to local problems, needs, and desires through development.
5. Centralized development projects supported by Federal agencies favor a professional elite, force the top-down imposition of programs conceived and developed without the meaningful involvement of users, and, consequently, usually result in failures in adoption and in educational progress.
6. Support and stimulation and instructional program development by Federal agencies, including NIE, creates much unnecessary change but little improvement in schools.
7. Past Federally-supported efforts to develop and implement instructional programs have promoted increased uniformity rather than diversity in educational practice.
8. Instructional programs are less influential determinants of what students learn than are other elements of educational settings and practice (e.g., learning environments, teacher-student interactions). Hence, NIE's efforts to improve learning should concentrate on other, more potent factors.

Policy Option #2. NIE's contributions to the improvement of instructional programs may include sponsorship of (1) the conduct, synthesis, and dissemination of research on issues of curriculum, instruction, and learning; (2) efforts to strengthen, facilitate, or coordinate others' work in improving instructional programs; and (3) the prototypic development of new instructional programs. Under no circumstances will NIE support the full-scale development of complete instructional programs that are ready for use in educational settings.

The general principle guiding selection of Institute activities is to begin always with those activities least directly involved in the actual production of instructional programs and materials, advancing to consideration of more direct activities only after a determination that less direct activities will be inadequate. Thus, upon a request to NIE for assistance in addressing an important instructional improvement, the Director will first determine whether the Institute can make an adequate contribution through the support of appropriate research, research synthesis, or research dissemination which will enable others to proceed with the remaining required work. In cases where the evidence indicates that Institute sponsorship of research activities alone will not suffice, the Director may consider the support of efforts to strengthen, facilitate, or coordinate others' work in improving instructional programs. Only when it is convincingly demonstrated that neither research nor efforts to facilitate others' work will suffice will the Director consider the support of prototypic development.

Arguments Given for Policy Option #2. Following are summaries of some of the arguments expressed to the Task Force by those likely to support the NIE role indicated in Policy Option #2:

1. Those who have a stake in the outcomes of education should participate in the development of new instructional programs. However, effecting such involvement is difficult. Therefore, NIE should provide support for efforts to find, test, and implement new procedures for development which facilitate the involvement of all concerned parties.
2. Instructional materials are important determinants of what is learned, but present methods of developing such materials are primitive. Therefore, NIE should concentrate on procedural advances.
3. NIE can maximize the benefits of its investments by concentrating on research, procedural advances, and other activities which will strengthen the capabilities of others to do their own work. These types of investments cost much less than full-scale development and will be used much more widely with much

greater effects.

4. Teachers derive greater benefits from being involved in development activities than from receiving ready-to-use materials completed by others. Such involvement produces understanding, commitment, and enthusiasm and, consequently, results in better implementation and more dramatic learner improvements.
5. Today the most critical task is to help teachers select and adapt the many instructional programs and materials now available.
6. Many qualified individuals and groups in settings across the country conduct development, but their efforts are uncoordinated. There are too many redundancies and gaps. NIE should assist by promoting coordination, communication, and cooperation among the various educational agencies and constituencies.
7. Sponsorship of prototypic development offers many advantages for NIE. Because the costs of prototypic development are substantially lower than the investments required for full-scale development, a greater variety of new programs can be initiated and carried to the point where others can assess their promise and, when warranted, assume responsibility for continued development. Moreover, many of the most capable researchers, scholars, and other experts are willing to participate in prototypic efforts but are reluctant or unable to devote the much greater time required for full-scale development.
8. Consistent with (a) the principle of State and local control of education and (b) our tradition of free enterprise, NIE, as a Federal agency, must be the party of last resort in the area of instructional program development. Therefore, NIE's policies must be restrictive with respect to activities in this area, allowing support (i.e. only those needed activities that cannot be accomplished without assistance from NIE.

Policy Option #3: NIE's primary role in contributing to the improvement of instructional programs is one of sponsoring (1) the conduct, synthesis, and dissemination of research on issues of curriculum, instruction, and learning; (2) efforts to strengthen, facilitate, or coordinate others' work in improving instructional programs; and (3) the prototypic development of new instructional programs. Research activities are most central to the Institute's mission and consequently, always are given preference over alternative activities. Similarly, efforts to strengthen others' capabilities and to facilitate their work are more consistent with the Institute's responsibilities than is prototypic development and, therefore, are given second preference.

Additionally, NIE may sponsor the full-scale development of new instructional programs, but only when: (1) it has been demonstrated convincingly that none of the higher priority activities will suffice as an Institute contribution in alleviating an important instructional problem or in capitalizing on an especially promising opportunity for instructional improvement; (2) at least one of the following conditions obtains:

- The proposed development constitutes the most effective means of equalizing educational opportunity, or
- The proposed development constitutes the most effective way to meet a pressing national need,
- The proposed development capitalizes on a critical opportunity to improve the quality of American education, made possible through the unique coincidence of major breakthroughs in knowledge and/or technology and the availability of persons particularly capable of conducting the proposed development; and

(3) completed and test prototypes of the proposed full-scale program demonstrate high promise of realizing the program's goals.

Evaluation of Developed Products: NIE will support evaluations of all instructional programs and materials it has chosen to develop. These will include formative evaluations (to indicate needed revisions) and summative evaluations of all products' final versions (to provide potential users with evidence of the products' quality and effectiveness).

Dissemination: NIE will in all cases arrange for the dissemination of information about the availability of products developed under its sponsorship and the results of evaluations of those products. In certain circumstances, NIE will take steps to insure that instructional

products it has sponsored are made available to intended users and to provide adopters with needed support in learning to use chosen products. The Institute will support dissemination of actual products and assistance in implementation only when:

1. The summative evaluations indicate that the products are of high quality and are effective in realizing their stated objectives, and
2. One of the following conditions obtains:
   a. Such activities are required to realize the goal of equal educational opportunity on which development was based, or
   b. Such activities are required to meet the national need on which the development was based.

Arguments Given for Policy Option #3. Following are the summaries of some of the arguments expressed to the Task Force by those likely to support the NIE role indicated in Policy Option #3.

1. Educational problems and opportunities vary widely in character and, therefore, require wide latitude for response. Hence, it would not be wise to prohibit broad categories of activity which may be most appropriate in addressing specific situations. NIE should have a flexible policy which allows it to draw on the most promising tools in any given circumstance.
2. NIE, as a Federal agency, is responsible for selecting the most cost-effective approaches to important educational problems. Therefore, its policies should allow the full range of efficient activities from which to choose in responding to important problems.
3. Instructional programs are among the most influential determinants of learning. Therefore, if NIE is to fulfill its commitment to improve the practice of education, it cannot preclude development of such important elements from its repertoire of possible activities.
4. Past experience has demonstrated that Federal support of only research, facilitation, or prototypic development does not insure improvements in educational practice. The promising results of many such activities often are not utilized by others in their own development work. Therefore, in some situations NIE must be able to directly translate the results of research into practice through the support of full scale development.
5. State, local, and private agencies can respond to local and regional needs but are not in a position to identify or address many national needs. NIE, as a Federal agency with a unique vantage point and resources, can and should address national problems that otherwise would go untended or that would not receive attention quickly enough.
6. Instructional program development is essentially the creation of new products to sell in a competitive market. The products must attract sizable enough shares of the market to justify substantial initial costs. Therefore, while NIE should not sponsor the development of instructional materials which compete with commercially-produced materials, it should sponsor the development of programs for small segments of the population where initial costs so outweigh potential profits that commercial producers are unwilling to underwrite the needed work.
7. Attempts at meaningful change through research and full-scale development always involve some risk. While the costs of good R&D are often substantial, one rarely can guarantee that the attempted improvements will be successful. Few State, local, or private agencies can take the risks that are sometimes required to explore promising new approaches. Therefore, NIE, as a Federal agency, must do so.

Policy Option #4. Strong, continuing support of the full range of activities required to improve instructional programs and materials available for use in schools and other educational settings is an appropriate, legitimate, and necessary role for NIE in pursuing its legislated mandate to improve the quality of American education. The support of research on issues of curriculum and instruction, efforts to strengthen others' capabilities and to facilitate others' work in developing instructional programs, and the development of prototypic materials is necessary but not sufficient. Additionally, the Institute must sponsor the full-scale development of instructional programs in a broad range of subject areas, providing many high quality options to

educators and learners. Moreover, NIE will sponsor whatever dissemination and implementation supports are needed to insure that high-quality, effective instructional products developed under its sponsorship are made available to all potential users, are adopted as widely as possible, and are used properly.

Sequencing of Support for Full-Scale Development: When the Director decides to support the full-scale development of instructional programs, funds will be given for sequential phases of the development activity, with analyses made by the Institute at specified points in that sequence to determine whether support for subsequent phases is warranted. Generally, the sequence of development phases shall be as follows: (1) completion of conceptualization and design of intended program and materials, (2) development of prototypes of the intended program, (3) development of the complete intended program, and (4) final revision of the program on the basis of formative evaluations. If at the end of any such phase the project's accomplishments prove to be unacceptable and show inadequate potential for improvement without substantial additional support, NIE will terminate funding for the project. However, if it is determined that the project's accomplishments remain high in quality and promise, NIE support will continue.

Evaluation of Developed Products: NIE will sponsor evaluations of all instructional programs and materials it has chosen to develop. These will include formative evaluations (to indicate needed revisions) and summative evaluations of all products' final versions (to provide potential users with evidence of the products' quality and effectiveness).

Dissemination: NIE will in all cases arrange for the dissemination of information about the availability of products developed under its sponsorship and the results of evaluations of those products. In most cases, NIE-sponsored instructional products will be made available to intended users. However, the Institute will not support such dissemination and implementation activities when the summative evaluations indicate that the products are of insufficient quality, are ineffective in realizing their stated objectives, or consistently lead to undesirable unintended effects.

Arguments Given for Policy Option #4. Following are summaries of some of the arguments expressed to the Task Force by those likely to support the NIE role indicated in Policy Option #4:

1. Improvement of instructional programs available for use in educational settings is a top priority. Such improvements are expensive and involve risky investments. State, local, and private agencies do not have the resources needed to mount the required R&D efforts. Hence, unless NIE provides substantial support for full-scale development activities, needed new programs will not be made available.
2. State, local, and private agencies develop curricula, but their work is often of low quality and inadequate variety. Therefore, NIE should compete aggressively in the development of instructional programs, providing the competition needed to stimulate improvements in others' work, providing programs in new subject areas, and providing innovative alternatives in more traditional areas.
3. According to recent studies, approximately 95 percent of instructional hours in American classrooms are devoted to and structured by instructional materials. Given this condition, NIE must concern itself with the nature of those materials if it is to carry out its legislated mandate.
4. Instructional materials development is essentially an engineering process, directed to the production of tools for teachers to use in realizing their objectives. Such development is very complex, requiring substantial amounts of expertise, experience, and time. Teachers rarely have all of these. Therefore, NIE should support teams of persons having the requisite competencies to develop high-quality programs.
5. The active period of instructional program development over the past two decades yielded many valuable lessons about the process of educational reform. The momentum of that reform movement has been lost. It should be resumed, building on the foundation of skill and understanding resulting from past experience.
6. In terms of required per-pupil invest-

ment, instructional materials development is the most efficient means of effecting desired educational improvements. Therefore, responsible public stewardship requires support of such development.

7. A commitment to develop instructional programs entails a further commitment to evaluate, disseminate, and support implementation of programs produced. Without the proper, widespread use of Federally-sponsored programs, there is little justification for investing in development.

Director's Policy Recommendation

The Director recommended adoption of the basic policy structure represented in Option #3 with the understanding that the Council might wish to refine that statement. The Director based this recommendation on the Task Force's findings and on the advice of the NIE Executive Committee and other interested staff. The Director's rationale for this recommendation included the following arguments.

1. Almost every educational problem and opportunity the Institute is likely to address involves a unique combination of circumstances. Therefore, the most sensible policy for NIE is a flexible one which makes possible the selection of strategies that are most appropriate in light of particular needs, available knowledge and technology, and the willingness and ability of potential performers to do the required work. While the Institute's policies should make it more difficult to sponsor some activities than others, no potentially beneficial activities should be absolutely prohibited.
2. While Policy Option #3 leaves a wide range of activities eligible for support, it does make explicit NIE's priorities, priorities which reflect the Institute's legislated mission, relationship to other educational and governmental agencies, program structure, and the views of many (if not most) of those who have expressed advice to the Institute over the past year and a half. The explication of these priorities—coupled with the requirement that the Institute always begin with consideration of research, moving to other categories only when the inadequacy of activities in the first cate-

Chapter 4:

Director's Report to the Council: 1976 Activities of the National Institute of Education

NIE's Place in Education Research

> *While the direction of the education system remains primarily the responsibility of State and local governments, the Federal government has a clear responsibility to provide leadership in the conduct and support of scientific inquiry into the education process.*
>
> *P.L. 92-318, June 1972*

When the Congress established the National Institute of Education, it was to elevate the study of educational problems to a level of visibility which would satisfy the Federal Government's responsibility for leadership. Proponents of educational research had long felt that research required a unique kind of leadership, authority, and direction not usually found in a multi-purpose government agency.* The issue of central management and coordination of research programs within the Office of Education had never been fully resolved. The creation of a new and separate agency, concerned only with supporting "scientific inquiry," was one of the major facets of the modification and restructuring of Federal education efforts which occurred between 1972 and 1975.

Although very small and very new (compared to the other 20 components of HEW), the National Institute of Education has moved with some vigor to assume the leadership which the Congress intended for it. It has pushed steadily toward using its energies on problems articulated by educators themselves and responding directly to the needs of the field.

However, NIE's impact on "scientific inquiry into the education process" should be seen in scale. Although intended to provide the leadership, NIE is far from the sole actor on the stage. There are 17 Federal departments and agencies engaged in the production and utilization of educational knowledge; in 1975 they obligated more than $513 million to the effort (Nelson, Sowell, Mason, 1976). Only 14 percent of that amount was appropriated to NIE. See Table 4.1.

Hence, the coordination of educational research obviously becomes a problem. "One strand of current thinking rejects the view that R&D is, or ever will be, a fully integrated system, (but) people working on similar problems need to know the nature and results of each other's work; outputs from one group may be inputs to others; and policies affecting one element may have second-order effects on others. . . . Much can be gained by increasing the availability of information about who is addressing what problems and how." (*The Status of Education Research*, 1976.)

NIE has taken steps in 1976 to attain leadership, not by performing one major portion of education R&D, but by encouraging synthesis and interchange. Through the Federal Interagency Committee on Education (FICE) which was established by Executive Order in 1964 with 24 member agencies and 5 observer agencies, there was set up in 1975, and functioning actively in 1976, a subcommittee on research, development, dissemination, and evaluation. This subcommittee is chaired by NIE's Director. Its primary purpose is to enable agencies to share with each other their research plans, findings, and problems.*

This effort was formalized by the Congress in the Education Amendments of 1976 in which it recognized the need for leadership in interagency matters involving research and assigned that responsibility to the Director of NIE through establishment of a Federal Council on Education Research and Development. This new council has been planned and marks a new era in coordination of education throughout government. Reports to the Congress and the President can only lead to a better utilization of Federal funds.

NIE's 1976 Research Activities

NIE's Mandate

In its original authorizing legislation in 1972, the Institute was directed to

- help to solve or to alleviate the problems of, and promote the reform and renewal of American education;

*Hence, the governance of the new NIE by a council of lay persons appointed by the President, and an authority to appoint researchers without encumbrances of the Civil Service system. (P.L. 92-318)

*Eleven agencies including HEW are members of this subcommittee. HEW representatives include: Administration on Aging; Alcohol, Drug Abuse, and Mental Health Administration; National Institute of Education; National Institutes of Health; Assistant Secretary for Education; Assistant Secretary, Planning and Evaluation; Office of Child Development; Office of Consumer Affairs; Office of Education; and Office of Human Development.

Table 4.1

Federal Expenditures for Education Knowledge Production and Utilization, FY 1975, By Agency (in thousands)

All Federal	$513,044		100%
HEW	422,854		82
OE	264,081	52	
NIE	73,820	14	
SE	20,555	4	
PHS	47,151	9	
OHD	15,364	3	
Agriculture	778		—*
Defense	21,451		4
Interior	1,178		—
Labor	951		—
State	1,447		—
ACTION	12		—
Appalachian Regional Commission	1,300		—
CSA	2,500		1
National Endowment/ Arts	450		—
National Endowment/ Humanities	17,061		3
NSF	39,875		8
Smithsonian	3,187		1

*Less than 1 percent

- advance the practice of education, as an art, science, and profession;
- strengthen the scientific and technological foundations of education; and
- build an effective educational research and development system.

When the Congress reauthorized the Institute in 1976, it added to the original thrusts by directing the Institute to seek to improve education by concentrating its resources on the following priority needs:

- "improvement in student achievement in the basic educational skills, including reading and mathematics"; (This assignment is to the Basic Skills Group.)
- "overcoming problems in finance, productivity and management in educational institutions"; (This assignment is to the Finance and Productivity Group and the School Capacity for Problem Solving Group.)
- "improving the ability of schools to meet their responsibilities to provide equal educational opportunities for students of limited English-speaking ability, women, and students who are socially, economically, or educationally disadvantaged;" (This assignment is to the Educational Equity Group.)
- "preparation of youths and adults for entering and progressing in careers;" (This assignment is to the Education and Work Group.)
- "and improved dissemination of the results of, and knowledge gained from, educational research and development, including assistance to educational agencies and institutions in the application of such results and knowledge." (This assignment is to the Dissemination and Resources Group.)

The Institute had organized itself around these problem areas as early as 1974.* Each of the Groups has a defined problem and a specified purpose.

	Problem	Purpose
Basic Skills	Although American society is probably the most literate ever known, 23 million adults have unsatisfactory reading skills, and there have been significant declines in literacy levels of students	To focus on teaching and assessment of reading, writing, and mathematical skills.
Finance and Productivity	Enrollments are changing rapidly in distribution and character; costs are continuing to rise; new distributions of educational funds are being required as education must compete with other services for available funds.	To assist communities with problems of enrollment shifts; improve the productivity of education through new technologies; and support efforts to reform school financing.
School Capacity for Problem Solving	Communities seek the ability to manage their own schools and to keep the confidence of their citizens in local excellence.	To develop ways of managing and improving education and of increasing satisfaction.
Educational Equity	Many students are unfairly treated	To promote changes which will enable

*Organizational chart on page 82.

	because of their home language, cultural, racial, or ethnic backgrounds; sex; or social class. Many are not profiting from school.	the educational system to function more equitably.
Education and Work	The transition between school and work is often difficult; adults are increasingly moving from work to school; sex and ethnic stereotyping are limiting opportunities for many.	To improve understanding of the relationship of education and work; to produce strategies to bridge the gap between them.
Dissemination and Resources	School and students have not derived the maximum benefit from the findings of research.	To make research knowledge available to teachers and school administrators and help them to use it.

The Institute thus has a clear mandate to address itself to, and expend its energies on, priority problems as defined by the Congress; and it has done so. See Table 4.2.

NIE's Outreach

Even so, in 1976 more than before the Institute made serious efforts to probe the boundaries of those priority problems and to hear them defined by those most affected and those most knowledgeable. This outreach took a variety of forms:

- contact with professional associations
- conferences with practitioners
- establishment of an Office of School Systems Relations
- increased planning with the laboratories and centers, and plans for the creation of a review panel for the work of those laboratories and centers, as directed by the reauthorization legislation
- convening external reviewers for advice on each of the six program areas for future directions
- widening the range of reviewers and consultants to include increasing proportions of ethnic and women researchers and practitioners
- conferences in various sections of the country with minority women's groups
- conferences in various sections of the country with those most interested in a bilingual clearinghouse
- conferences on increasing participation of minorities and women in educational research
- sharing information among those most interested in what the Institute had learned in the outreach.

The Institute consulted with adminis-

Table 4.2

Program Funding by Problem Area
1974-1976

Problem Area	1974		1975		1976		Transition 1976	
	%	$M	%	$M	%	$M	%	$M
Dissemination and Resources	10	6.3	10	5.9	15	8.4	32	6.0
Basic Skills	33	21.1	32	18.5	27	15.5	19	3.5
Finance and Productivity	22	14.3	28	16.4	22	12.6	18	3.4
Education and Work	25	16.2	22	12.8	20	11.5	22	4.0
Educational Equity	7	4.5	5	3.0	8	4.7	5	1.0
School Capacity for Problem Solving	4	2.3	4	2.1	8	4.8	3	.6
TOTALS	100%	64.7	100%	58.7	100%	57.5	100%	18.5

(percentages rounded)

Improved management and coordination . . .

trators and policymakers, teachers, parents, researchers, special needs groups, and groups with special interests. A representative list appears on page 78.

In a less direct way, the Institute attempted to summarize the overriding issues troubling the public by studying the commonalities of concerns shared by the average citizen, the writers on education, and typical education professionals. Using the Gallup polls sponsored by the Kettering Foundation for the past 8 years, analyzing the content of professional journal articles for the year, and interviewing educational writers, NIE staff isolated the six areas of greatest common concern to all three groups (Major Problems in American Education, a, 1976).

Those six concerns were:

- Finance: how can we pay for education?
- Governance: how can we run schools, and who should have a voice?
- Accountability: how do we know we are getting our money's worth?
- Curriculum: what should be taught, and how?
- Desegregation: how can it be best achieved?
- Discipline: how can students become more interested?

Although the Institute had organized its work along problem definitions different from these, a gratifying portion of that work addresses these concerns quite directly.

Finance. The Institute perceives its role as being useful to those in States and localities to set policies on tax reform and distribution of funds, by informing them on current practices and by demonstrating cost effective models.

Some projects underway in 1976 were:

- studies on the effects of declining enrollments
- inquiries into financial practices in other countries
- conferences for legislators
- studies on cost savings from high school proficiency examinations
- service delivery at lower cost in lifelong learning

Governance. The Institute studies the many roles which have an impact on how schools are organized and operated.

Some projects under way in 1976 were:

- ways in which 11 school districts respond to the demands of their constituents
- a study of citizen participation in education
- examination of the effects of the courts on school decisions and practices
- a comparison of policymaking and parental support in public and nonpublic schools
- teacher involvement in decisionmaking in local schools.

Accountability. The Institute designs and studies methods for helping schools do better teaching and for helping them measure their effectiveness.

Underway in 1976 were projects such as:

- probing the reasons for declining test scores
- studying child/parent interviews as a source of program evaluation
- examining factors in teacher licensing and teacher competency
- describing a model for implementing accountability systems in education
- testing a model of inner-city school renewal.

Curriculum. In 1976, the Institute focused on giving to practitioners the results of some curriculum studies and information on curriculum formulation.

It carried on projects such as:

- material for teaching moral/ethical values, arts, mathematics; materials for Hispanic pupils and Native American pupils
- preparing an informational catalog on the

products of research and development in education
- studying "linkage" in education to provide schools with the newest knowledge available
- experimenting with providing work experience during the school years, to ease the transition from school to work
- examining the legal authorities which control the curriculum in schools
- endeavoring to find ways to make curricula responsive to needs of minorities and women.

Desegregation. The Institute perceived its role as one of providing school districts with information to enable them to facilitate the process of desegregation.

It carried on projects in:
- undertaking studies on policy on desegregation
- doing case studies of desegregation methods
- examining "resegregation" occurring in formerly desegregated schools
- bringing together social scientists and judicial decisionmakers for discussions
- studying ethnographic aspects of desegregation successes.

Discipline. The Institute has been active in the congressionally mandated study on safety in the schools, and has studied aspects of schools which might affect the interest of students in learning.

Some projects were:
- how school organization (graded, ungraded, open and self-contained classrooms) affects learning motivation
- the overactive child and the effects of food additives
- the relationship between actual time spent in learning and the amount that is learned.
- the results of assigning pupils to classroom "teams."

Highlights 1976. Some highlights from among the 224 awards made in 1976 may serve to show how directly the Institute's work is designed to respond to the problems identified in its outreach. Six of those awards are described here in some detail.

1. The use of research and development products: This combination of seven projects represents an effort to try out various ways of getting school people to use the outcomes of research and development. Eighteen States, 260 schools, and 90,000 students will be involved in a 30-month coordinated effort to:
- help schools alleviate specific, locally determined problems in the areas of basic skills and career education;
- increase knowledge among school and community people of the availability and use of research results; and
- acquire a better understanding of how the local change process can be managed to help schools improve their progress.

This is an example of action research, wherein there are direct benefits to schools, while at the same time much is learned about how spread of knowledge can come about. At the same time, NIE will learn about the changes made in R&D products to meet specific local needs, about the varying kinds of outside technical assistance which are helpful to schools undergoing change, and about the agencies providing that assistance.

Active in this program are the States of Florida, Georgia, Michigan, and Pennsylvania. Each State will explore a different strategy. The National Education Association also is part of the program and will work with 60 schools in 12 other States to help teachers choose R&D-based training materials that match their classroom needs; it will also operate a telephone system to disseminate research information in response to teacher requests. State education agencies in Washington, Oregon, Idaho, and Alaska are working with intermediate service agencies and research organizations to help local schools identify their reading problems and apply solutions to them.

2. Research on teaching: Increasing interest into what constitutes the "teaching act" and the dearth of scientific knowledge about teaching were two of the main reasons why NIE in 1976 sponsored the establishment of a center for intensive study on teaching. At the Michigan State University, the Center will conduct research on ways in which effective teachers diagnose students' needs and prescribe solutions. It will determine what processes occur which cause teachers to arrive at certain expectations for pupils—expectations which are often self-fulfilling prophesies.

Although the focus is on the total act of teaching, the research will center on the teaching of reading, not only because of national interest in reading but also because

in surveys and in NIE-sponsored conferences, those most concerned about teaching (teacher trainers, teachers themselves, and educational researchers) identified teacher diagnosis and prescription in the basic skills as the highest research priority.

There will be investigations into such neglected areas as:

- teachers' lesson-planning and decision-making as they relate to developing expectations about students;
- finding solutions to behavior problems and choosing appropriate instruction for individualized settings.

One outcome of the research will be a computer program of the diagnostic process which may be used in the training of teachers.

This, too, will be an "action research" project, for while the basic research is underway there will be regular involvement of the teachers, and constant feedback to them on what is being learned, what the implications are for their work, and how they are contributing to the learning.

More than educators will work on the research team. The University will draw at least eight other departments (Economics, Sociology, Psychiatry, Political Science, Medical Education, Urban and Metropolitan Studies, Psychology, and Linguistics). These contributors to the research will not be isolated from each other, but will focus in an intellectual forum on all of the views presented, whether theoretical, methodological, or practical.

A promising component of this project, initially limited to teachers of elementary reading, will be investigation into teachers' information-processing systems and will deal with questions like:

- How do teachers decide when there are problems?
- Do effective teachers have unique information-processing abilities?
- Can these be taught to other teachers?
- How do teachers arrive at their perceptions of a pupil's probable success, or his "motivation?"
- What are the consequences of these perceptions on the pupil's learning and concept of himself?

3. **The study of reading**: This center in the University of Illinois will differ from the one just described, for its emphasis is on upper elementary pupils rather than lower elementary, and on the pupils rather than the teacher. It will investigate that period in a pupil's growth which has been of such concern to American schools—the period at which a child's "reading" is no longer the decoding of symbols but an active comprehension of the material. This is the pivotal moment in reading development; failures in comprehension have been blamed for reading inadequacies in millions of adult Americans. The research will examine the transition from early reading to the stage where comprehension and retention are required, and will attempt to find ways to ease that transition into the more intellectually demanding tasks of the middle grades. Particular attention will be paid to relationships between the ways a child speaks and the ways a child reads.

As in the Michigan work, a broad interdisciplinary team will be used; teachers will be quite actively involved; and materials will be developed for, and with, teachers.

4. **Career awareness**: Many experts believe that the career choices of adults are often restricted because of stereotyped roles, especially those based on sex, which are "taught" to them during childhood in subtle and inconspicuous ways. If it is assumed that girls will become nurses, secretaries, or librarians—but not surgeons, pilots, or engineers—that assumption is quite surely communicated to young girls (and boys) in the early elementary-school years.

In a demonstration to determine if career awareness can be expanded for America's children, a new NIE project begun in 1976 is being undertaken by the Southern California Consortium, an organization formed especially for the project. The six members of the consortium are the public television station KCET of Los Angeles, the Los Angeles City Schools, the University of Southern California, the East Los Angeles College, the Office of the Los Angeles Superintendent of Schools, and the Science Research Associates in Chicago.

The Consortium will design, develop, and produce a children's television series and supporting instructional materials aimed at a national audience of elementary children in grades four through six and their parents and teachers. Three pilot programs are expected to be aired by fall 1977; the complete series will be offered for regularly scheduled programing in 1978. The series will consist of 26

half-hour programs, aimed at either television or school viewing; the programs will be supplemented by training programs for school staff, materials for students, parents, and teachers, and activities for the community. The Institute for Social Research in Michigan will evaluate the impact of the series.

5. School finance reform. In a several-part project to study how monies for education are raised, allocated, and expended, and how school financing influences school organization, the Institute hopes to offer further advice and alternatives to State legislatures. One part of this study will examine the consequence of recent school finance reform in the five States of Michigan, Kansas, Florida, California, and New Mexico. The strengths and weaknesses of the five approaches to reform will be compared.

A second part of the study will examine pupil weighting systems. There is no common definition of a weighting system. Originally the idea was to allocate the same amount of money for each pupil—the idea of equity was equal resources. Then it was realized that different students have different learning problems and therefore require different levels of resources; this is the more sophisticated attempt to provide fairness. The study will look at the definitions of pupil weighting systems in Florida, Utah, and New Mexico where analyses are being made on educational costs per pupil. Research questions like these are being asked:

- What are the major consequences of a pupil weighting system?
- Once developed, how have these systems worked?
- What changes in the allocation of educational funds have occurred as a consequence of pupil weighting systems?
- How does the funding of special education through a weighting system satisfy the new Federal law on education of the handicapped?

The effect of school finance reform on disadvantaged children is another portion of the study. In California, Colorado, Florida, Illinois, New Mexico, and Texas, the relationship of such factors as district wealth, tax effort, and geographic locale and State aid formulae will be analyzed to determine their collective impact upon the distribution of resources to low-income and minority school districts. The study will examine how changes caused by the reform law have affected poor and minority children, and which funding formulae have had the most and the least beneficial impact upon them.

6. Compensatory education study. Five new contracts were awarded in 1976 for the study of compensatory education, especially Title I of the Elementary and Secondary Education Act. The NIE research will assist Congress to determine the need for additional legislation and programs in compensatory education. The overall aims of the study, begun in 1974, are to examine the purposes and effectiveness of compensatory education programs, analyze ways of identifying children in greatest need of these programs, consider ways of meeting the children's needs, as well as the feasibilities, costs, and consequences of alternative means of distributing Federal compensatory education funds.

There are three principal parts of the work begun in 1976:

- funds allocation
- administration
- effects of the services on children.

The first covers procedures for allocating funds at the State, county, and subcounty levels for school districts with large numbers of low-income children who are educationally disadvantaged. The investigation covered 13 districts and looks at different combinations of achievement and poverty. It is a process-oriented investigation that considers characteristics of students and schools and asks how they change.

The second part of the study examines how the programs are run at the Federal, State, and local levels. The third part, an instructional dimension study, focuses on reading instruction techniques for students in first and third grades in different settings—440 classrooms in five States—and asks if individual instruction techniques affect attitudes, behavior, and ultimately achievement.

NIE Consultation and Review Process

NIE involves the field—researchers, educators, and other interested persons—in the design of programs and in the review of plans, proposals, and projects in a number of ways:

1. Program plans in each area are developed in consultation with the field through conferences and other forms of contact.
2. The overall NIE Plan is given very wide distribution for comments early enough for revisions to be made.
3. Programs and plans of each NIE Group and of NIE as a whole have been, or will be, reviewed annually by panels of leading researchers and educators.
4. Grants proposals are reviewed initially by NIE staff (and frequently by external reviewers) and the most promising ones are given further review:
   a. **Unsolicited proposals:** Two to five external reviewers for those requesting more than $25,000.
   b. **Proposals responding to specific grants announcements:** Reviewed by external panels.
5. Programs of Regional Laboratories and R&D Centers supported by NIE receive external review.
6. Responses to requests for proposals to carry out, under contract, work specified by NIE are frequently reviewed externally.

Final decisions on all awards are made by the Director of NIE, taking account of internal and external reviews.

In all of these activities NIE makes a special point of involving women and members of various minority communities. Although it would be virtually impossible to record full information on everyone consulted, the table on page 80 summarizes the available information on women and minority participation in NIE conferences and reviews from July, 1975 to September, 1976.

Following is a list of formal conferences and representative reviews during Fiscal Year 1976:

- *Office of the Director*
  - National Academy of Sciences—National Academy of Education Committee on Fundamental Research Relevant to Education, 1976
  - Meeting of Research Organizations in Postsecondary Education, September 1976
  - Consultant Group on R&D Funding Policies of NIE, April-August 1975
- *Basic Skills Group*
  - Symposium on Methodology, July 1975
  - Conference on Test Bias, December 1975
  - Conference on Alternative Research Designs in Compensatory Education, March 1976
  - Workshop on Qualitative and Quantitative Research Methodologies, July 1976
  - Conference on Basic Mathematical Skills and Learning, October 1975
  - Conference on Hand-held Calculators in Mathematics Instruction, June 1976
  - Reviews [17] of programs at Cemrel, Center for Study of Evaluation, Far West Laboratory, Learning R&D Center, Northwest Regional Laboratory, Research for Better Schools, Southwest Regional Laboratory
  - Review of Unsolicited Proposals
  - Review of Proposals for Institute for Research on Teaching, September 1975
  - Review of Proposals for Center for Study of Reading, June 1976
  - Basic Skills Research Grant Competition Proposal Reviews, July-August 1976
- *Dissemination and Resources Group*
  - Conference on Dissemination in Professional Associations, March and April 1976
  - NIE-American Association of School Administrators Regional Conferences for Administrators of Regional Educational Service Agencies: Western, Eastern, May 1976; Rocky Mountain, Central, June 1976
  - National Dissemination Conference, June 1976
  - NIE-American Educational Research Association Conference on Increasing

Participation of Minorities and Women in Educational Research & Development, September 1976
Review of Project at Center for Study of Evaluation, March 1976
Review of Unsolicited Proposals

- *Educational Equity Group*
  Bilingual Symposium: Building a Research Agenda, December 1975
  Conference on the Educational and Occupational Needs of:
  Black Women, December 1975
  Hispanic Women, June 1976
  Asian-Pacific American Women, August 1976
  Symposium on School Desegregation and White Flight, August 1975
  Conference on Education, Social Science, and the Judicial Process, February 1976
  Workshop on Safe-School Survey Instruments, August 1975
  Safe-School Study Analysis Workshop, August 1976
  Conference on Evaluating Compensatory Education, July 1975
  Conference on Title I Regulations and Smaller School Districts, October 1975
  Reviews of Programs at Center for Study of Evaluation and Stanford Center for R&D in Teaching
  Reviews of Unsolicited Proposals
- *Education and Work Group*
  Conference on Youth Research, May 1976
  Education and Career Access Division Conference on Future Issues, May 1976
  Conferences on Transferable Skills:
  Columbus, Ohio, April 1976
  Fargo, North Dakota, May 1976
  Milwaukee, Wisconsin, May 1976
  San Diego, California, August 1976
  Salt Lake City, Utah, August 1976
  Review of Project at Center for Vocational Education, February-May 1976
  Advisory Group on Alternative State Strategies for Implementation of Experience-based Career Education, June 1976
  Panel on Study of Acceptability and Negotiability of External Degrees, August 1976
  Advisory Committee for Career Education Measurement Project, September 1976
  Reviews of Unsolicited Proposals
  Education and Work Research Grant Competition Proposal Reviews, August 1976
- *Finance and Productivity Group*
  Conference on Post-Secondary Education Finance, Productivity, and Management Research, August 1976
  Oregon Competency-Based Education Seminar, 1975-76
  Ad-Hoc Committee on Computer Assisted Instruction, 1975-76
  Review of Project at Northwest Regional Laboratory, April 1976
  University of Mid-America Reviews, April-July 1976
  Review of Experimental Schools Case Studies, July 1976
  Review of Project at Center for Education Policy & Management, February 1976
  Review of Rural Education Program, June 1976
  Review of Documentation and Technical Assistance Project, Summer 1976
  Finance and Productivity Program Review, July 1976
  Review of Unsolicited Proposals
- *School Capacity for Problem-Solving Group*
  Organizational Research Study Group, 1976

Participants in the conferences, workshops, and reviews cited above were drawn from all sectors of the entire education community. Table 4.3 is a representative list of organizations contacted by NIE during FY 1976.

Statistical Description of NIE

Readers interested in knowing how NIE spends its money should refer to the tables on page 79. Table 4.4 indicates that the percentage of NIE funds spent on development has decreased, while the percentages on research, dissemination, and policy studies have increased.

Recipients of NIE funds are reflected by category in Table 4.5. Since 1974 the percentage of NIE funds awarded to State and local educational agencies has steadily increased.

NIE's poductivity is partly reflected through its 1976 papers and publications listed in Table 4.7.

Table 4.3

Representative List of NIE Contacts, 1976

Category	Organization
Administrators and Policymakers	American Association of School Administrators
	American Council on Education
	Council of Chief State School Officers
	Council of State Legislators
	Education Commission of the States
	National School Boards Association
	National Association of State Boards of Education
	National Council of University Administrators
	National Association of Secondary School Principals
	National Association of Elementary School Principals
Teachers	American Federation of Teachers
	American Association of Colleges of Teacher Education
	American Personnel and Guidance Association
	Association for Supervision and Curriculum Development
	American Association of University Professors
	National Education Association
	National Indian Education Association
	National Education Task Force de la Raza
Parents	National Parent-Teacher Association
Researchers	American Anthropological Association
	American Educational Research Association
	American Psychological Association
	American Sociological Association
	Council on Educational Development and Research
	National Association of Linguists
Special needs groups	Asian and Pacific women
	Black educators
	Black women
	Bilingual educators
	Hispanic women
	Lau Decision impact population (bilingual)
	Native American women
	American GI Forum
	League of United Latin American Citizens
Issue-interest groups	American Association of Higher Education
	Association of Science and Technology Centers
	AFL/CIO
	Career/vocational education
	Clearinghouse on Information on Bilingual Education
	Council on American Private Education
	Declining Enrollment Conference
	Federal Bar Association
	Institute for Study of Educational Policy
	Mathematics: Hand-held Calculator Conference
	National Advisory Council: Equal Education Opportunity

Table 4.4

NIE's Program Funding By Type of Activity

Type of Activity	1974		1975		1976		Transition 1976	
	%	$M	%	$M	%	$M	%	$M
Research	12	7.6	4	2.3	10	5.5	22	4.2
Development	79	50.9	86	50.3	69	39.4	34	6.3
Dissemination	9	6.0	10	5.9	18	10.4	39	7.0
Policy Studies	3	2	3	2	4	2.2	5	1.0

Table 4.5

NIE's Program Funding By Type of Recipient

Type of Recipient	1974		1975		1976		Transition 1976	
	%	$M	%	$M	%	$M	%	$M
Colleges Universities*	29	18.8	26	15.0	37	21.3	21	3.9
Nonprofit Organizations**	54	35.1	57	33.6	39	22.7	30	5.5
For-profit Organizations	6	3.9	5	2.7	8	4.4	16	3.0
State and Local Education Agencies	6	3.8	11	6.7	13	7.2	24	4.5
Individuals	1	.8	—	—	1	.8	8	1.4
Other	4	2.4	1	.7	2	1.1	1	.2

*Includes all funds at R&D Centers

**Includes all funds at educational laboratories

Compiled by NIE Budget Office

Table 1.6

Participation in NIE Activities

	Conferences	Program and Project Reviews	Proposal Reviews	Total Number	Total Percent
Total	1,002	156	286	1,444	100
Total Majority	718	136	223	1,077	75
Total Minority	284	24	63	367	25
Total Female	335	41	78	454	31
Black	161	10	28	199	14
Hispanic	72	9	28	109	8
Asian	45	1	6	52	4
Native American	6		1	7	0.5

Funds for ... location have been scarce

Table 4.7

Selected NIE Papers and Publications, 1976

1. *Archives Index of the National Institute of Education*
2. *Beginning Teacher Evaluation Study, Phase II Summary*
3. *Catalog of NIE Products*
4. *Cognitive Development in Young Children: A Report for Teachers*
5. *Community Colleges Respond to Elders*
6. *The Community is the Teacher*
7. *Current Issues, Problems and Concerns in Curriculum Development*
8. *Declining Test Scores: A Conference Report*
9. *Development of Career Awareness in Young Children*
10. *Desegregation Studies*
11. *Desegregation Literature: A Critical Appraisal*
12. *Directory of ERIC Collections in the Washington, D.C. Area*
13. *The Director's Report to the Campbell Committee*
14. *Dissemination and Resources Group Program Plan FY 1978*
15. *Economy, Efficiency and Equality: the Myths of Rural Schools and District Consolidation*
16. *Education, Social Science and the Judicial Process*
17. *Educational Resources Division, NIE* (pamphlet)
18. *ERIC Products 1973-1975*
19. *Evaluating Compensatory Education — an Interim Report on the NIE Compensatory Education Study*
20. *Facilities Handbook for Career Education: NIE Papers in E&W, No. 2*
21. *Funding of Educational Finance Research*
22. *Home Based Education: Needs and Technological Opportunities*
23. *Institutional Profiles of Educational Laboratories and R&D Centers*
24. *Multicultural/Bilingual Division Fiscal Year 1976 Program Plan*
25. *Multicultural Planning Conferences*
26. *The National Institute of Education* (brochure)
27. National Conference on Studies in Teaching: reprinting of 10 panel reports
28. *NIE Information*
29. *Peer and Cross Age Tutoring in the Schools*
30. *Periodicals Index, 2nd edition*
31. *Postsecondary Education: Research Opportunities for NIE*
32. *Preliminary Program Plans for 1978: Executive Summary*
33. "Preliminary Report on Concerns about the Adverse Impact of Educational Research on its Subjects"
34. *Program Plan FY 77: Educational Equity Group*
35. "Resegregation: a Second Generation School Desegregation Issue"
36. *The Role of the School Principal in School Desegregation*
37. *R&D Funding Policies of the NIE: Review and Recommendations: Final Report of Consultants to the Director and the NCER*
38. "School Capacity for Problem Solving Project Abstracts"
39. *School Desegregation in the 1970s: Problems and Prospects*
40. "School Desegregation and Crisis Prevention: a Position Paper and Research Agenda"
41. "Schools in the Seventies: a Research Perspective on Key Administrative Issues"
42. *A Selector's Guide for Bilingual Education Materials* (2 volumes)
43. *Social Development in Young Children: a Report for Teachers*
44. *The Status of Education Research and Development in the U.S.: 1976 Databook*
45. *Why Education R&D* (reprint from *American Education*)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Education Division

NATIONAL INSTITUTE OF EDUCATION

Approved:

Harold L. Hodgkinson

Date: Dec. 27, 1976

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Appendix A
CURRICULUM MEETINGS WITH PROFESSIONAL AND LAY ORGANIZATIONS

Between January 1976 (shortly after completion of the Task Force's first report) and January 1977 (when this report to NCER was being prepared), the NIE Curriculum Development Task Force contacted dozens of organizations having a potential interest in discussing NIE's curriculum development policies and broader curriculum issues. Many organizations were not able to schedule meetings with the Task Force, but 37 did. Some of these were discussion sessions at organizations' annual meetings or conventions, some were meetings with executive councils or boards, some were discussions with especially interested committees, and some were meetings with organizations' regional chapters or affiliations. The 37 organizations with which the Task Force met in one way or another were:

- American Association of School Administrators (AASA): October 20, 1976
- American Educational Research Association (AERA): April 21, 1976
- American Federation of Teachers (AFT): August 8, 1976
- Aspira (New York City): September 30, 1976
- Association of American Publishers (AAP): September 1, 1976
- Association for Childhood Education International: April 13, 1976
- Association for Supervision and Curriculum Development (ASCD): March 15, 1976, and October 22, 1976
- Association of Teacher Educators (ATE): February 4, 1976
- Biological Sciences Curriculum Study (BSCS), Board of Directors: October 29, 1976
- Center for Study of Parent Involvement: November 8, 1976
- Center for Teaching International Relations: October 6, 1976 and October 21, 1976
- Council for Educational Development and Research, Inc. (CEDaR): March 19, 1976 and October 21, 1976
- Commission on Adult Basic Education: April 15, 1976
- Council of Great City Schools: May 20, 1976
- Education Commission of the States: October 22, 1976
- Federal Interagency Committee on Education (FICE): several meetings
- Illinois Association of Teachers of English: October 30, 1976
- International Reading Association (IRA): October 7, 1976 and October 23, 1976
- League of Women Voters, Georgia: December 12, 1976
- Learning Research and Development Center (LRCD): October 21, 1976
- National Art Education Association (NAEA): April 10, 1976 and September 18, 1976
- National Association for the Advancement of Colored People (NAACP): December 12, 1976
- National Association of Elementary School Principals (NAESP): September 25, 1976
- National Association of Secondary School Principals (NASSP): October 1, 1976
- National Association of State Boards of Education (NASBE): October 6, 1976
- National Coalition of Title I Parents: November 11, 1976
- National Committee for Citizens in Education (NCCE): September 1976
- National Congress of Parents and Teachers (PTA): May 24, 1976 and September 31, 1976
- National Council for the Social Studies (NCSS): November 6, 1976
- National Council of Teachers of English (NCTE): April 4, 1976
- National Council of Teachers of Mathematics (NCTM): April 23, 1976; October 10, 1976; and November 11, 1976
- National School Volunteers Program: October 10, 1976
- National School Boards Association (NSBA): April 11-12, 1976
- National School Volunteers Program: October 10, 1976
- National Science Teachers Association (NSTA): October 1, 1976
- Public Education Association (PEA; New York City): December 12, 1976
- Research for Better Schools (RBS): December 8, 1976

Appendix B
REGIONAL PUBLIC MEETINGS ON CURRICULUM ISSUES

In December 1976 and January 1977 the Curriculum Development Task Force and NCER held public meetings in Philadelphia, Kansas City, Portland (Oregon), and San Francisco. The main purpose of these meetings was to provide interested citizens in various parts of the country with opportunities to discuss issues in curriculum development and to express policy advice to NIE. Two meetings, one in the afternoon and one in the evening, were held in each city. The sponsoring institutions listed below arranged advertising, meeting space, tape-recording, and the preparation of summary reports. The meetings were advertised through newspapers, television, radio, letters, posters, announcements, and invitations. Over 300 members of the public attended these meetings.

City	Date	Sponsor
Philadelphia	December 7, 1976	Research for Better Schools, Inc.
Kansas City	January 10, 1977	The Metropolitan Community Colleges
Portland, Oregon	January 11, 1977	Northwest Regional Educational Laboratory
San Francisco	January 12, 1977	Far West Regional Laboratory for Educational Research & Development

Appendix C
PARTICIPANTS, NOVEMBER 17-19, 1976, NIE CURRICULUM DEVELOPMENT CONFERENCE

On November 17, 18, and 19, 1976, the Curriculum Development Task Force sponsored a national conference in Washington, D.C. The purpose of the conference was to stimulate discussion of problems and issues in the field of curriculum and in the area of Federal participation among representatives of a wide range of interests, levels in the educational system, positions, and points of view. The participants included teachers, parents, principals, superintendents, school district curriculum specialists, school board members, representatives of professional associations and other educational organizations, State Department of Education staff, members of State boards of education, State legislators, members of State textbook adoption boards, scholars, policy analysts, journalists, representatives of private nonprofit educational firms, representatives of Regional Laboratories and R&D Centers, Congressional staff, and representatives of Federal agencies, including NIE. Ralph W. Tyler served as Conference Chairman. A summary version of the proceedings has been prepared by Henry M. Brickell (of Policy Studies in Education, New York City) and a more detailed version of the proceedings has been prepared by Nel Noddings (of Los Altos, California).

Conference participants (other than NIE staff) included:

- Judy Almquist (parent)
- Robert Andringa (Committee on Education and Labor; U.S. House of Representatives)
- George Archibald (American Legislative Exchange Council)
- Philip Austin (Department of Health,

Education, and Welfare)
- Stephen Bailey (American Council on Education)
- Donald Barr (Hackley School)
- Clarence Blount (State Senate of Maryland)
- Mike Bowler (Baltimore Sun)
- William Boyd (University of Rochester)
- Ronald Brandt (Lincoln Public Schools)
- Henry M. Brickell (Policy Studies in Education)
- Harry S. Broudy (University of Illinois)
- Gordon L. Brown (Illinois Office of Education)
- William Brown (National Association of State Boards of Education)
- Joel Burdin (American Association of Colleges for Teacher Education)
- William Cannon (University of Chicago)
- Jose Cardenas (Intercultural Development Research Association)
- Frank Chase (Dallas Independent School District)
- J. D. Clemmons (Department of Health, Education, and Welfare)
- Michael G. Cohan (Select Subcommittee on Education, U.S. House of Representatives)
- Jesse Coles (South Carolina State Department of Education)
- Larry Cuban (Arlington Public Schools)
- Jerome Daen (National Science Foundation)
- David Darland (National Education Association)
- Judy Parsons (Parent)
- Suzanne Quick (The Rand Corporation)
- Elizabeth S. Randolph (Charlottee-Mecklenburg Schools)
- Marilyn Rauth (American Federation of Teachers)
- Lauren Resnick (Learning Research and Development Center)
- Wade Robinson (CEMREL, Inc.)
- Justin Rodriguez (Department of Health, Education, and Welfare)
- Stanley Salett (National Committee for Citizens in Education)
- Richard Schutz (Southwest Regional Laboratory)
- Edith Schwartz (California Curriculum Development and Supplementary Materials Committee)
- David Seeley (Public Education Association)
- Robert Segura (National Education Task Force de la Raza)
- Lawrence Senesh (University of Colorado)
- James Shaver (National Council for the Social Studies)
- Ron Smith (Education Commission of the States)
- Nelle H. Taylor (National Education Association)
- Michael Timpane (The Rand Corporation)
- Jack E. Tirrell (American Association of Community and Junior Colleges)
- Marlene Torres (Department of Health, Education, and Welfare)
- J. Lloyd Trump (National Association of Secondary School Principals)
- Ralph Tyler (Director Emeritus, Center for Advanced Study of the Behavioral Sciences)
- John Valentine (College Entrance Examination Board)
- Tyll van Geel (The University of Rochester)
- Decker F. Walker (Stanford University)
- Lillian Weber (The City College Workshop Center for Open Education)
- David L. Williams (University of Maryland)
- Deborah Wolfe (National Alliance of Black School Educators)
- Harry Wugalter (Governor's Cabinet; New Mexico)
- Joseph Dasbach (American Association for the Advancement of Science)
- Robert Davis (University of Illinois)
- Charles M. Dorn (National Art Education Association)
- Peter Dow (Learning Design Associates)
- Carl Dolce (North Carolina State University)
- Jack Duncan (Select Subcommittee on Education; U.S. House of Representatives)
- Denis Driscoll (University of Maryland)
- Donald E. Egge (Oregon State Department of Education)
- Elliot W. Eisner (Stanford University)
- Todd Endo (Arlington Public Schools)
- Richard Farrell (Office of Senator Lawton Childs; U.S. Senate)
- Gloria Frazier (National Assessment of Educational Progress)
- Gregory Fusco (Committee on Labor and

Public Welfare, U.S. Senate)
- Jean Frohlicher (Subcommittee on Education, U.S. Senate)
- Marjorie Gardner (University of Maryland)
- William Gaul (Committee on Education and Labor, U.S. House of Representatives)
- James Gates (National Council of Teachers of Mathematics)
- Thomas F. Green (Syracuse University)
- John Hale (National Endowment for the Humanities)
- Raymond Hannapel (National Science Foundation)
- Carol Hodgson (American Vocational Association, Inc.)
- Barbara Howell (Silver Burdett Company)
- Paul Hurd (Stanford University)
- David Justice (Fund for the Improvement of Postsecondary Education)
- Ann Kahn (National PTA)
- Herbert Kliebard (University of Wisconsin)
- Joyce Lewis (Maine State Legislature)
- David Lockard (University of Maryland)
- John C. Maxwell (National Council of Teachers of English)
- Ruby Martin (U.S. House of Representatives)
- Onalee McGraw (National Coalition for Children)
- Sterling M. McMurrin (University of Utah)
- Roy Millenson (Association of American Publishers)
- Robert Miller (U.S. Office of Education)
- William Moore (Brightwood Elementary School)
- Muriel Morisey (Office of Representative Shirley Chisholm)
- Ellen Moyer (Maryland State Board of Education)
- Nel Noddings (Los Altos, California)
- Magdalie Romero de Ortiz (Hunter College)
- Peggy Ott (American Association of School Administrators)

Appendix D
DISTRIBUTION OF "NIE GUIDES FOR PUBLIC DISCUSSION"

In order to facilitate the understanding and discussion of NIE curriculum development policy issues and the expression of policy advice from interested persons, the Curriculum Development Task Force contracted with Henry M. Brickell and his colleagues at Policy Studies in Education in New York to develop a set of "Guides for Public Discussion." These guides delineated 10 of the key policy issues, explained several alternative positions on each issue, and provided relevant background information. Additionally, each set contained a summary guide which respondents could use to express their policy preferences. Over 7,000 sets of guides were distributed to persons who expressed an interest in the Task Force's work, to persons who attended meetings with the Task Force, and to samples of the members of the following 77 organizations:

- Adult Education Association of the USA
- Advocates for Indian Education
- American Anthropological Association
- American Association for the Advancement of Science
- American Association of Colleges of Teacher Education
- American Association of Community and Junior Colleges
- American Association for Higher Education
- American Association of Physics Teachers
- American Association of School Administrators
- American Bar Association: Youth Education for Citizenship Program
- American Chemical Society
- American Council on Education
- American Educational Research Association
- American Federation of the Arts
- American Federation of Labor—Congress of Industrial Organizations
- American Federation of Teachers
- American Institute of Biological Sciences
- American Institutes for Research
- American Vocational Association
- Association of American Publishers

- Association of American Universities
- Association for Childhood Education International
- Association for Supervision and Curriculum Development
- Association of Teacher Educators
- Bay Area Bilingual Education League
- Bilingual Education Service Center
- Carnegie Council on Policy Studies in Higher Education
- Citizens United for Responsible Education
- Coalition of Title I Parents
- College Entrance Examination Board
- Council for American Private Education
- Council of Chief State School Officers
- Council of Chief State School Officers' Outstanding Teachers, 1976, 1977
- Council for Elementary Science International
- Council for Exceptional Children
- Council for Educational Development and Research, Inc.
- Council of Great City Schools
- Education Development Center, Inc.
- Indian Education Training, Inc.
- Institute for Black Child Development
- Institute for Services to Education
- Institute for Study of Educational Policy
- International Reading Association
- Joint Council on Economic Education
- League of Women Voters, South Carolina
- Let's Improve Today's Education
- Mathematics Association of America
- National Art Education Association
- National Association of Biology Teachers
- National Association of Educational Broadcasters
- National Association of Elementary School Principals
- National Association of Manufacturers
- National Association for Public Continuing and Adult Education
- National Association of Secondary School Principals
- National Association of State Boards of Education
- National Association of State Directors of Teacher Education and Certification
- National Association of Student Councils
- National Committee for Citizens in Education
- National Congress for Educational Excellence
- National Congress of Parents and Teachers
- National Council of Churches
- National Council of Negro Women
- National Council for the Social Studies
- National Council of Teachers of English
- National Council of Teachers of Mathematics
- National Indian Education Association
- National Manpower Institute
- National Organization for Women
- National School Boards Association
- National School Volunteer Program, Inc.
- National Science Teachers Association
- National Student Lobby
- National Urban Coalition
- Rural Education Association
- Spanish Curriculum Development Center
- Student National Education Association
- U.S. National Student Association

Appendix E
PAPERS COMMISSIONED BY THE CURRICULUM DEVELOPMENT TASK FORCE

In attempting to determine what has been learned from past experience and research relevant to NIE's curriculum policy issues, the Task Force commissioned 27 papers by scholars, policy analysts, practitioners, researchers, and curriculum developers. Papers were commissioned in three categories: (1) scholars' analyses of specified pertinent topics; (2) analyses of the key policy issues by individuals in a variety of positions representing a variety of points of view; and (3) reflections on "lessons" from experience and implications for policy by a wide variety of curriculum developers and persons who have conducted curriculum-related research.

The topics and writers were as follows:

1. *Historical, Sociopolitical, and Technical Dimensions of Curriculum Development: Scholarly Examinations*

   William Boyd, (The University of Rochester), "The Changing Politics of Curriculum Policy-Making for

American Schools"

Larry Cuban (Superintendent, Arlington, Virginia, Public Schools), "Forces Influencing Curriculum Change and Stability"

Marjorie Gardner (University of Maryland), "A Brief History of Federal Involvement in Curriculum Development"

Herbert Kliebard (University of Wisconsin), "Systematic Curriculum Development, 1890-1958: An Interpretive Survey"

Ralph Tyler (Science Research Associates), "Educational Improvements Best Served by Curriculum Development"

Tyll van Geel (The University of Rochester), "The New Law of the School Curriculum"

Decker Walker (Stanford University), "Approaches to Curriculum Development"

2. *Curriculum Development Issues Facing NIE: Analytic Explorations*

Donald Barr (Headmaster, The Hackley School)

Paul Brandwein (Harcourt, Brace, Jovanovich)

Joseph M. Cronin (State Superintendent of Education, Illinois)

Thomas F. Green (Syracuse University)

Jerrold R. Zacharias (Education Development Center)

3. *Curriculum Development Experiences: "Lessons" Learned and Policy Implications*

Ronald Brandt (Lincoln, Nebraska, Public Schools)

John B. Carroll (University of North Carolina)

Raymond English (Educational Research Council of America)

Arnold Goldman (University of Missouri, St. Louis)

David Hawkins (The Mountainview Center for Environmental Education)

Elton Hocking (Professor Emeritus, Purdue University)

Madeline Hunter (Principal, University Elementary School, UCLA)

John Mayor (University of Maryland)

Northwest Regional Educational Laboratory (Principal Author, Lawrence Fish, Director)

Samuel Postlethwait (Purdue University)

Lauren Resnick (Learning Research and Development Center, University of Pittsburgh)

Joseph J. Schwab (The Center for the Study of Democratic Institutions)

Lawrence Senesh (University of Colorado)

Southwest Regional Laboratory (Principal Author: Richard Schutz, Director)

James R. Squire (Ginn and Company)

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